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Established 1887

U.S. Helped Ship Overseas Pesticides Banned at Home

By Peter Milius and Dan Morgan

WASHINGTON, Dec. 8 (UPI)—The U.S. government has helped to pay for the shipment overseas of hundreds of tons of pesticides so poisonous that they are not permitted to be used in the United States.

Included in these shipments of the U.S. foreign program were 54 metric tons of leprofos, which has been linked to nerve disorders and paralysis among workers at the Texas plant where it was manufactured.

Officials of the Agency for International Development (AID) said the leprofos pesticide was shipped to Indonesia and South Vietnam between 1972 and 1975 for use on cotton crops.

At the same time, the officials said that AID had subsidized the export of about 800 metric tons of DDT, primarily for use on crops, between 1972 and 1974. The use of DDT has been prohibited in the United States, except in special cases, since the beginning of 1972.

AID agreed last December to suspend its procurement of these and other controversial chemicals after four national environmental organizations filed suit to stop the practice.

Until then, leprofos, DDT, aldrin, heptachlor and chlordane were all included on the list of commodities for which U.S. government financing was available to foreign buyers. The use of these chemicals either has never been authorized or has been sharply circumscribed by the Environmental Protection Agency, which sets U.S. government standards.

An AID spokesman announced yesterday that the agency "is not financing the export of leprofos (at the present time) and doesn't expect to do so." He said the decision was based on a recent report of a five-member EPA advisory panel, which

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Smith Back In Geneva; Sees Talks In Danger

GENEVA, Dec. 8 (UPI)—Rhodesia's Prime Minister Ian Smith warned today that the Rhodesia conference here will be "out the window" unless it returns to a focus on the original U.S.-British proposals for a peaceful transition to black-majority rule.

Mr. Smith, who returned to the conference today after a five-week absence, issued his warning after a one-hour, 40-minute private session with Ivor Richard, the British diplomat who is chairman of the conference.

Mr. Smith declared: "If you're going to break an agreement, you must face the consequences. It is a grave thing. Then the whole thing is out the window and we have to start again."

Mr. Smith insists that the British-U.S. proposals represented a non-negotiable package and were accepted as such by Rhodesia's white people.

"The meeting was inconclusive," Mr. Smith told newsmen after his session with Mr. Richard today.

"I put forward some ideas and we agreed to sleep on them and meet again tomorrow," the Prime Minister added.

Kissinger Plan

He declined to discuss the ideas he advanced but reiterated that he sticks firmly to the proposals made in September, with British backing, by outgoing U.S. Secretary of State Henry Kissinger.

"I think the British are sitting on the fence, trying to find out which way the thing is going to go and then they're going to jump accordingly," Mr. Smith said earlier today, on landing at the airport here.

Mr. Smith left the Geneva conference one week after its formal opening on Dec. 28. He said then that he was wasting his time here because Mr. Richard had failed to put the U.S.-British proposals before the five delegations—four black and one white.

The proposals, which London said constituted only a basis for negotiation and not a hard and fast peace package as Mr. Smith maintains, provide for an interim government with a black prime minister and majority but with whites retaining control of the army and police.

All four nationalist leaders here insist on a British presence in Rhodesia during the transitional period. British supervision of the transitional process would be in the hands of a commissioner or governor.

Mr. Smith rejected this idea when he flew in from Salisbury on a flight that first took him to Johannesburg and then to Zurich.

"A British presence would be more a hindrance than a help," he said.

Conference officials have all but ruled out any agreement by Dec. 20—Britain's target date for a pact—and have said that there will undoubtedly have to be a second round possibly held elsewhere.

18 Deaths and an Arrest

SALISBURY, Rhodesia, Dec. 8 (UPI)—Rhodesia reported today that 18 blacks have been killed in the guerrilla war in recent days and announced the arrest of a Swiss priest on charges of "assisting terrorists."

A government spokesman said the Rev. Paul Egit, a Catholic missionary, "will be appearing in court shortly, facing five charges of assisting terrorists and failing to report (the presence of) terrorists." Another Catholic cleric, Bishop Donald Lambert of Umtali, is appealing a 10-year jail term imposed on him for failing to report the presence of guerrillas.

Student, 19, Flew In August

which has emerged as the single most influential group in the completely segregated township of 15 million blacks.

Contrary to the claims of the white-minority government headed by Prime Minister John Vorster, there were no outside agitators and no "Communist" involvement, the youth leader insisted. It was a revolt sparked by student protests against the imposed use in the high schools of Afrikaans—seen by the students as the language of the racist and oppressor and also a means of ensuring they would remain in the country as an available labor force.

The students carrying their placards converged on a Soweto high school and found the police waiting. He said they fired into the throng and an 11-year-old boy at his side fell to the ground, a bullet wound in his head—the

first casualty. He estimates more than 350 others died later in Soweto and as the violence spread, the total likely reached 1,000. Authorities put the figure at 168.

Weeks in hiding followed while the government offered \$75 for information leading to his arrest. He says he chose exile because he was convinced that once in the hands of the police, he would be tortured as others had been who were released from detention crippled or blinded.

He escaped to Botswana in August and said he narrowly evaded attempts to kidnap him by South African police. He made his way to London by means he prefers not to discuss and has been attending Kingsbridge Priory on a scholarship.

The young leader said he sees (Continued on Page 2, Col. 7)



EEC Commissioner Sir Christopher Soames with Henry Kissinger in Brussels yesterday.

Ministers Give Tentative Go-Ahead

NATO Clears Early Warning Force

By James Goldborough

BRUSSELS, Dec. 8 (UPI)—NATO defense ministers today gave a tentative political go-ahead to plans for the new airborne early warning force, a \$2.4-billion project that is the biggest ever undertaken by the alliance.

Meeting here on the eve of the semiannual meeting of alliance foreign ministers—which is expected to be the last major foreign appearance by Secretary of State Henry Kissinger—the defense ministers seconded a plan that has had NATO military backing for several years.

The defense ministers' decision was regarded as less than final because of lingering reluctance in some national parliaments to bear the cost. But Joseph Luns, the NATO secretary-general, said tonight that only a "slight possibility" of failure remained.

U.S. Defense Secretary Donald

Rumsfeld said he was encouraged by the action taken here today.

"There was an endorsement of the military judgment that this early warning system was a necessity for the alliance," he said.

The plan calls for the establishment of a joint fleet of 27 Boeing E-3A aircraft to protect against possibility of a surprise attack. The system, called AWACS, for Airborne Warning and Control System, is designed particularly to protect against low-flying enemy aircraft that would not be detected by ground radar.

AWACS has been a hot issue at meetings of the North Atlantic Treaty Organization in recent years because of its cost—described by Mr. Luns tonight as "enormous." But it is necessary because present alliance early-warning systems are out of date, Mr. Luns said.

Experts have been working on

ways for the NATO allies to produce enough parts for the new

planes on their own territory to offset up to 18 per cent of the total cost to them. The defense ministers' communiqué tonight said that financial experts would meet early next month to examine the financial problems and pave the way for a final meeting of defense ministers. The political accords would then need endorsement by national legislatures.

The approval given to the project by the allies—the United States is already building 13 of the planes for its own use—reflected the growing concern in military circles over the continued Soviet defense effort.

A new conference tonight, Mr. Rumsfeld commented on what he called the "increase in Soviet military spending in real terms," and said that in the last

(Continued on Page 2, Col. 3)



A Boeing AWAC radar plane of the type being offered to NATO by the United States.

But Further Talks Will Seek to Avoid Double Taxation.

French Assembly Ends U.S. Tax Exemption

PARIS, Dec. 8 (UPI)—The National Assembly today passed a tax bill that includes a provision repealing Article 164 of the tax code, which has protected Americans residing in France from double taxation since before World War II.

Repeal of Article 164, however, will date from Jan. 1, 1978, giving American residents in France a year's time to adjust to the new French tax system. The repeal was part of a wider tax bill passed by the Assembly that provides tax relief for Frenchmen residing abroad.

The Assembly action occurred three months after the French Senate voted to preserve the article in the new tax bill.

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now go to a joint commission to decide on a compromise version. The Assembly has the final say in the matter.

Between the Senate's consideration of it in August and Assembly adoption today, U.S. and French negotiators met to adopt provisions aimed at protecting Americans in France from most forms of double taxation, U.S. and French officials now say that most forms of income taxed in the United States will be exempt from taxation here.

Large Gray Area

The U.S. community in France, however, disputes this and maintains that there are several forms of income that will still be subject to double taxation. A large gray area exists, for example, on taxation of Americans who reside only part-time in France.

U.S. and French negotiators will begin meeting again early next year after the new U.S. administration takes office, U.S. officials say. One of the goals of the new negotiations will be to close any loopholes that still remain on double taxation.

"The goal of both governments is to avoid double taxation," a U.S. official commented. "We would expect that the U.S. community in France would stay in contact with us during the negotiations to make its views known."

The new negotiations will be carried out by officials from the French Finance Ministry and from the Tax Policy Office of the U.S. Treasury Department.

More Than 60 Treaties

A French Finance Ministry official pointed out that France has already drawn up tax treaties with more than 60 countries to avoid double taxation of foreign residents in France.

He added that France and the United States have begun discussions on eliminating all possi-

bilities of double taxation of U.S. residents in France. The talks will resume in January or February of next year, he said.

If necessary, he added, the U.S.-French tax treaty will be revised to make sure that there is no double taxation. The problems are not complex and agreement should be reached and presented for legislative action shortly, he said.

In any case, the official stressed, there will be no effect of the repeal of Article 164 on U.S. residents until September, 1978, when income for 1978 will be taxed. And at that time, the U.S. taxpayer will be able to appeal the French tax system's decision if he feels that he has been taxed twice on the same revenue.

The meeting of the PLO leadership was the first in more than six months attended by representatives of as-Salga, the Syrian-controlled guerrilla organization that was expelled from the PLO by Mr. Arafat and his colleagues during the fighting between Palestinian commandos and the Syrian Army in Lebanon's recent civil war.

It was decided last night that the PLO's 42-member Central Council will meet in Damascus Sunday or Monday to discuss relations between as-Salga and the other guerrilla groups and to make preparations for a meeting of the full 174-member Palestine National Council (parliament), a session likely to be held in Cairo in January.

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PLO Considering Plan to Establish Regime-in-Exile

By Henry Janner

BEIRUT, Dec. 8 (NYT)—The leadership of the Palestine Liberation Organization is contemplating the formation of a government-in-exile before the start of negotiations in Geneva for a Middle East settlement, Palestinian sources said today.

The immediate purpose of such a step would be to make it easier for the Soviet Union and the United States to invite the Palestinians to participate in the conference, the sources said. The two superpowers are co-chairmen of the conference and must issue the invitations.

The Palestinian leaders are reportedly moving toward acceptance of an Egyptian proposal for their inclusion in a single Arab delegation, whereas in the past they have insisted on forming a separate Palestinian delegation. They would still require an invitation from the superpowers, however.

Yasser Arafat, the head of the PLO, raised the issue of a government-in-exile last night at a meeting here with other leaders of the Palestinian movement, the sources said.

They added that President Tito of Yugoslavia and President Nicolae Ceausescu of Romania had both urged the formation of such a government in talks with Mr. Arafat during his visits to Belgrade and Bucharest earlier this week.

President Tito is reported to have told the guerrilla leader that 90 or more governments would give diplomatic recognition to a Palestinian government, Mr. Arafat returned from Eastern Europe yesterday. He is due to visit Moscow soon, after going to Cairo for talks with President Anwar Sadat.

The Soviet Union, too, is understood to have urged the Palestinians to form a provisional government-in-exile.

The idea was first proposed by Mr. Sadat in the spring of 1974. Palestinian leaders have been saying that if a government were formed, its seat would be in Cairo, which is also the headquarters of the Arab League.

Many Palestinian leaders have in the past opposed the idea of forming a government before obtaining a territory of their own in which to place it.

Hardliners among them have argued that a provisional government, by soliciting diplomatic recognition, would be accepting the rules of the international community before being sure that this community was ready to satisfy the national aspirations of the Palestinians.

Military Acts Barred

In blunt terms, it was argued that if negotiations in Geneva or elsewhere failed and Israel did not withdraw from territories occupied in 1967, the Palestinians should be free to resume armed operations, including terrorist acts, which a government could not do.

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Urges Closing U.S. Bases

Spanish Socialist Convention Calls for Sweeping Changes

MADRID, Dec. 8 (UPI)—Spain's main Socialist party wound up a four-day national convention today, calling for a sweeping program of democratic change and the closing of U.S. military bases in Spain.

The Socialist Workers Party of Spain (PSOE), which is expected to play an important role in the future democratic Spain, also proposed profound changes in the economy. It drew up a charter of women's rights that includes the legalization of divorce, free abortion and free contraceptives—all of them forbidden under the Franco regime.

The congress was the PSOE's first on Spanish soil since before the Civil War. The party shared power in the Popular Front government at the time Franco's nationalists rose against the government and started the 1936-39 war.

The congress has been hailed by the Spanish press as historic and as one of the most significant signs of Spain's move from dictatorship to Western-style democracy. The government of King Juan Carlos authorized it and provided armed police to guard the 3,000 delegates against possible attacks from extreme rightists.

In one of a packet of resolutions approved by the congress last night and made public today, the Socialists called for the scrapping of the military bases treaty with the United States. They said the treaty "mortgages the national territory and Spain's foreign policy and was concluded without the free and explicit approval of the Spanish people."

NATO, Warsaw Pact Assailed

The foreign policy resolution also denounced "the imperialist interventionism of the United States in Latin American countries and declared the party's solidarity with the struggles of the Latin American peoples for their full political and economic independence against the local oligarchies serving foreign economic interests."

The Socialists condemned both NATO and the Warsaw Pact as "militaristic blocs dividing the working class worldwide and delaying its liberation from all forms of economic, social and political exploitation." They said they would oppose membership in the European Economic Community as long as political freedoms have not been fully established in Spain.

The party redefined itself as Marxist, but stressed its adherence to pluralist Western-style democracy. Several speakers made clear that even though the PSOE is at present allied with the Communists, it will pursue its own line.

"While fully respecting liberty, we want to transform Spanish society," the party's leader, Felipe Gonzalez, a 34-year-old Seville lawyer, said in his closing address.

The congress was attended by delegations from 30 nations, among them West German Chancellor Willy Brandt, the chairman of the Socialist International, and other West European Socialist leaders.

Autonomy Is Urged

The Socialists demanded that Spain's thorny minority problems be solved by giving the Basques, Catalans and others autonomy within a federal system. In careful terms, they left open the possibility that the action could again become a republic, as it was before Franco.

Commons Passes Nationalization Bill by 3 Votes

LONDON, Dec. 8 (Reuters)—A bitterly contested bill to nationalize Britain's ship and aircraft building industries escaped over a major hurdle early today when the House of Commons passed it by 280 votes to 277.

But the Labor government, which is trying to steer Socialist measures through Parliament with only a one-vote majority, was immediately faced with a new opposition tactic.

The Conservatives said they would formally ask the speaker (chairman) to rule that the government could not invoke powers to curtail interference by the House of Lords, which the opposition dominates.

The Lords so altered the bill in the previous session of Parliament that it failed and had to be reintroduced.

The measure, which is being doggedly opposed by the Conservatives, could still take up to a year to get through the remaining parliamentary processes.

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Leader of Soweto Uprising Predicts Race War

By Kathleen Teitsch

Warm shirts for cold weekends

If you're looking for warm shirts for the winter weekends, you'll find piles of them to choose from at Lanvin.

The most sumptuous are in pure cotton velvet, with stripes of contrasting colors (€ 450). The most comfortable are in an acrylic angora/wool mixture (€ 250). The most "country" shirts are pure wool, and they come in all the warm fall shades (€ 270).

Last but not least, the most classical shirt comes from England: 50% wool, 50% cotton (from € 230 up).



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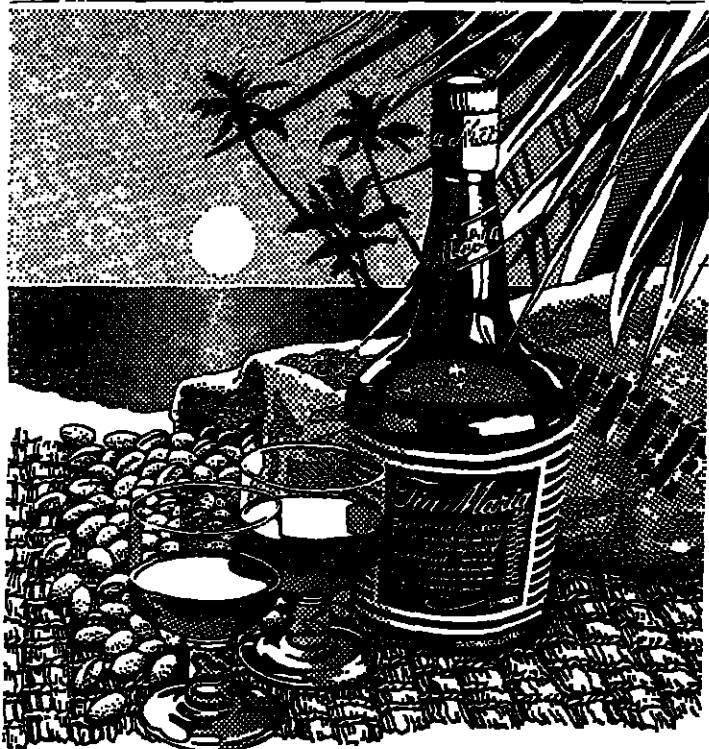
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Give her a few moments
in the Caribbean.

Tia Maria

Headed by Britain's Roy Jenkins

New European Commission May Revive the EEC's Fortunes

PARIS (IHT).—The 13 new members of the European Economic Community's Executive Commission were designated in The Hague last week and, from the looks of the lineup, chances are that some of the members are not going to accept the commission's reputation as a political graveyard.

The new commission, headed by Britain's Roy Jenkins, takes office Jan. 1 for four years. With the commission currently in a state of full eclipse, this Jenkins commission may be the most important in the community's history.

Mr. Jenkins, the former British home secretary and chancellor of the Exchequer, has spent the last few months on a talent search throughout the EEC capitals. Some countries, usually the most federalist-minded, such as the

Netherlands, Italy and Belgium, nominated powerful and well-known figures to his commission. In some cases, in France, for example, Mr. Jenkins got the men he wanted. In others, West Germany, he did not.

The next few years will be crucial for the commission. Never able to fill the executive role intended for it—because of nationalist opposition in France and West Germany—the commission has suffered even more since the community's chiefs of government established the European Council two years ago to act as an executive body.

But with the council itself now proving ineffective, a strong and independent commission could turn the community's fortunes around. Mr. Jenkins set out to pack it with powerful political figures who wanted

something more than a comfortable ticket to retirement.

Following is a list of the men who will serve with Mr. Jenkins on the new commission. The four largest EEC nations have two commissioners each: the five smallest, one each.

Italy: Lorenzo Natali, Christian Democrat, former minister of agriculture. Antonio Giorgetti, Socialist, member of Parliament and economist.

France: François-Xavier Ortoli and Claude Cheysson. Both French commissioners are holdovers from the previous commission and both are highly regarded. Mr. Cheysson is a prominent Socialist and was a close aide of former Prime Minister Jacques Chirac. However, it is Mr. Chirac who is out of office and Mr. Cheysson who stays.

West Germany: Willy Haferkamp and Guido Brunner are also holdovers. Mr. Jenkins apparently arrived in asking Chancellor Helmut Schmidt to replace Mr. Haferkamp, who has held the commission's economics and finance portfolios, with someone with more political clout. Mr. Schmidt never has been a commission fan and the last thing he wants to give it is political clout.

Britain: Mr. Jenkins himself, Leborite, and Christopher Tugendhat, Conservative MP from Westminster. The Tories originally designated John Davies but Mr. Jenkins argued for somebody on the rise. Mr. Tugendhat, 39, is a former columnist for the Financial Times, has published two books and is a Tory with a future.

Netherlands: The Dutch are sending Henk Vredeling, an out-

spoken and unorthodox Socialist who is their defense minister. Belgium: The Belgians have designated Viscount Etienne Davignon, their best-known diplomat, who is head of the International Energy Agency and gave his name to the Davignon Committee, the EEC's first political coordinating body.

Rounding out the commission are Finn Olaf Gundelach of Denmark, Richard Burke of Ireland, and Raymond Vonn of Luxembourg.

One striking point about the new commission is the high quality of the Socialists who are on it. Messrs. Jenkins, Giorgetti, Cheysson and Vredeling make up a solid Socialist nucleus that could give the commission a tendency that it has not had in the past.

Members of the commission will visit Mr. Jenkins a week or two at his home in Berkshire. The most pressing problem is distribution of portfolios, for at least four of the commissioners, Messrs. Vredeling, Giorgetti, Davignon and Ortoli, have indicated that their acceptance depended on their new jobs.

There is stiff competition for the key posts, which include foreign relations, held by Sir Christopher Soames in the previous commission; economics and finance, held by Mr. Haferkamp; aid and development, held by Mr. Cheysson; and agriculture, held by Pierre Lardinois, a Dutchman. Regional development, industry and energy are other key portfolios.

The next four years will determine not only the future of the commission but also very probably the future of the European Council and the Council of Ministers.

The council's future, following its unsuccessful recent meetings, is in doubt. The European Parliament, too, will undergo significant changes with the direct election of its members, which will start in 1978. The next four years would be an opportune time for the commission to reassert itself as an effective EEC executive body.

NATO's Defense Ministers Clear Early Warning Force

(Continued from Page 1)

two years the alliance had taken steps to meet it.

Calling cooperation among the NATO allies "higher than ever before," he said: "I am leaving my post optimistically. This is a dangerous and untidy world, but I am reassured that the alliance is doing its job."

Experts still must work out many problems in the AWACS agreement, but if they succeed, they will put in place a system that, in Mr. Luns's words tonight, "will sight anything that flies, from stars upwards."

The planes in all likelihood will be jointly owned, rather than nationally with four NATO countries—the United States, West Germany, Britain and Canada—paying most of the costs. French approval is still tentative. The smaller NATO nations would pay largely symbolic costs for the system.

Although final figures remain to be negotiated, it is estimated that the United States would pay roughly one-third of the \$2.4 billion.

The plane itself is a modified 707 with a huge radar tower on top. It is essentially designed to detect low-flying aircraft such as the Soviet Foxbat, the MIG-25,

which recently slipped into Japan piloted by a defecting Russian officer.

At his news conference, Mr. Rumfeld said that in his remarks on Spain yesterday he had not called for presence of Spanish observers at NATO meetings but rather their inclusion in meetings of NATO parliamentarians. There was some concern today that Washington was trying to force the Spanish issue—despite the objections of some of the more liberal NATO nations—even before the upcoming Spanish elections.

But despite Mr. Rumfeld's clarification, it remains clear that the outgoing administration is as committed to Spanish entry into NATO as ever.

Giscard Will Call Summit of West's Industrial Powers

PARIS, Dec. 8 (Reuters).—President Valéry Giscard d'Estaing announced here today his intention to call a third summit conference of the United States and other leading industrial nations to discuss the world economic crisis.

A special European summit meeting will discuss the problem before the proposed conference, expected to be held within six months, he said.

At the weekly Cabinet meeting, Mr. Giscard d'Estaing said he intended to ask President-elect Jimmy Carter, the new Japanese government and other leading Western industrialized countries to meet before next summer.

France was host to the first economic summit last November at Rambouillet, near Paris, with the United States holding the second one in Puerto Rico last June.

French officials said they did not yet know where the next one would be held. They said that West Germany, Britain and Italy have already indicated willingness to participate.

Mr. Giscard d'Estaing first brought up his idea for another economic summit at a meeting of the European Economic Community heads of state and government at The Hague early last week.

Basque Seeking Swedish Haven

STOCKHOLM, Dec. 8 (Reuters).—A leading member of the Basque nationalist movement ETA has applied for political asylum in Sweden, his lawyer said today.

The lawyer said that Jose Ignacio Abaitua Gomez entered Sweden a month ago. Mr. Abaitua Gomez, 28, had lived in France since 1968, but his lawyer, Bengt Soederstrom, said he left earlier this year because he feared possible extradition to Spain now that relations have improved between the two countries.

The police said today that Mr. Abaitua Gomez would need to supply more details of why he sought asylum before a decision could be made.

Pearl Harbor Day

PEARL HARBOR, Hawaii, Dec. 8 (AP).—The 35th anniversary of the Japanese attack on Pearl Harbor was observed yesterday.



An unidentified woman in evening gown and furs walks past riot police on opening night at La Scala.

Milan Leftists Clash With Police Guarding La Scala Performance

MILAN, Dec. 8 (Reuters).—The police have charged 30 people following violent leftist demonstrations outside La Scala opera house last night as the new season began. Demonstrators protesting the high price of tickets to the performance of Verdi's "Otello"—up to 140,000 lire (\$180)—clashed with 5,000 police guarding the theater.

Ten persons, eight of them policemen, were injured. One of the protesters was in intensive care after a gasoline bomb exploded in the crowd.

"It's like going to war," a lady wearing a fur coat said as she arrived at the theater.

"It is no longer amusing coming to a La Scala premiere under such conditions," another patron said.

Protesters today were generally hostile to the demonstrators but the Rome Communist daily Paese Sera described the evening as "an offense to the poor in this time of austerity and to the unemployed."

Another leftist newspaper, La Repubblica, said the point of the protest was lost since the opera was broadcast live on Italian television. "Even the stunts have TV aerials," it added.

City officials said it would be some time before they could estimate the damage caused in the incidents.

A review of the opera performance appears on Page 10.

U.S. Helped Ship Overseas Pesticides Banned at Home

(Continued from Page 1)

recommended against its further use on food products. Cotton is considered a food product because crushed cottonseed produces a widely used vegetable oil.

Previous shipments of pesticides not registered for use in the United States were defended by AID officials on several counts. They said that the chemicals help boost food production in some countries where malnutrition is widespread. Those pesti-

cides may also attack devastating pests that are unknown in the United States.

However, Richard Frank, the attorney who represented the environmental groups in the 1976 suit against AID, said: "AID just sort of gave people these pesticides. They have not been informing the foreign governments of the problems connected with them."

The value of all pesticides exported with AID financing has ranged from \$98.1 million in fiscal 1970, when they accounted for 13.9 per cent of total U.S. pesticide sales overseas, to \$11 million in fiscal 1975, when the share was 1.9 per cent.

Cosmonaut Training Starts for Soviet Allies

MOSCOW, Dec. 8 (AP).—Trainee cosmonauts from Czechoslovakia, Poland and East Germany have arrived at the Star City training center near Moscow to prepare for missions aboard Soviet spacecraft and space stations. Tass said today.

The Soviet Union agreed Sept. 14 with Bulgaria, Hungary, East Germany, Cuba, Mongolia, Romania and Czechoslovakia to include their cosmonauts in missions between 1978 and 1983.

AID officials said that they were unaware of any harmful effects of leptocephalus when financing was approved. However, it was learned that the Environmental Protection Agency had been reviewing the substance's possible impact on the central nervous system of humans since 1974, and had never registered the pesticide for use in the United States.

The pesticide, made in Bayport, Texas, has been marketed abroad as phovetol. It was sold to Egypt, among other countries.

AID has contracted with the Montrose Chemical Corp. in Torrance, Calif., to produce DDT for foreign use, both in "public health" programs for spraying malaria mosquitoes and, until mid-1974, for spraying on crops. India, Ethiopia, Nepal, Indonesia, South Vietnam and Haiti have received DDT for malaria control.

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Est. 1911
5 Rue Daunou, PARIS.
Falkenturm Str. 9, Munich.

S. African Leader of Upris Expects Race War in 5 Ye

(Continued from Page 1)

no prospect of a political settlement being achieved which will transfer political power to the black majority by peaceful means.

Instead, he attested to the growing sentiment among blacks that there would have to be an "armed struggle, very soon." He also predicted that the organized students would take to the streets and said that planning very probably was taking place underground for such anti-government actions.

In the same quiet voice, he said he could not foresee a South Africa in which whites and blacks "would live happily ever after," because there has been too much bitterness created in the minds of the oppressed black majority. "People know what they will do to the whites if they get in power."

What troubles him deeply, he said, is his worry that lack of adequate education has made the majority unprepared for political responsibility. Several times he repeated his concern, saying blacks who have gone abroad have learned about Marxism and "all the same" but students denied adequate schooling were "politically ignorant."

"Communist horror" As a student at home, he said, he heard a lot about the "Communist horror" and that it was the enemy of the white regime. He said he was curious about Communism but had found he did not have the education to grasp its meaning. "I tried to

Sarkis Picks A Technocrat

(Continued from Page 1)

Israel has indicated that it would not tolerate Arab forces.

A major obstacle to the designation of Mr. Hoss as Premier was removed when former President Samir Chamoun, a rightist leader, announced that he did not object to a government of technocrats, those who are technical experts in their fields.

Earlier, Mr. Chamoun, leader of the National Liberal party, had insisted on a political government.

He told newsmen after seeing President Sarkis today: "I would have wished the government to be formed of politicians as the present situation in the country is political rather than that of reconstruction."

But he said that he had taken into account that the President wished to avoid political overtones and turn to economic and social issues.

"We should not ignore this viewpoint," he added.

Official sources said that Mr. Hoss would not hold the usual consultations on formation of the government, but would announce the Cabinet list tomorrow night.

A Rome fireman p
a wreath on the
of the Virgin Mary
the Piazza di Spagi
the feast day of the
magnate Conception

Syria, Jordan A Form of Uni Between State

AMMAN, Dec. 8 (Reuters).—Syria and Jordan today announced their intention to form a union of the two states and have set up a committee to work out the details.

The plan was set out in a statement issued after a 5 official visit here by Syrian President Hafez al-Assad.

A high-level joint committee will work out the steps for closer cooperation and set up a supreme leadership committee of President Assad and King Hussein.

The two leaders reviewed progress toward coordination, achieved and decided on more advanced formula of tying governmental affairs should now be drawn up.

Informed sources said that they gave final approval of their economic, educational, legal, telecommunications and customs systems. A move was recommended by premiers meeting in Dair last month.

Jordan and Syria were vying at war six years ago over Hussein's successful military or of Palestinian guerrillas.

Israel to Cease Jerusalem Digs

JERUSALEM, Dec. 8 (Reuters).—Archaeological excavations in Jerusalem's Temple Mount, provoked a major controversy. UNESCO will cease next leaders of the Israeli authorities said today.

The excavations, at the foot of the Wall, have been almost completed and the area will soon be open to the public, Ben-Dov, the mission's director, said.

The decision to cease the work was not connected with the denunciation of Israel by the United Nations Educational, Scientific and Cultural Organization, added.

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12. The things you saw today.

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Unfortunately, this slow process occasionally makes Jack Daniel's hard to find in some areas. The restaurants, bars and hotels listed below, however, are a few of the places where it is in plentiful supply. At these establishments, scotch drinkers may find that they agree with drinkers of American whiskey on the smoothness of Jack Daniel's.



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Gosselies
Holiday Inn
LUXEMBOURG
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BRITAIN
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Empress Club
Grosvenor House Hotel
Hillier
Hillier
Korup Fyn
Frederick, A.V. Kro
Rokkide
Sasky
Alkottlund
Peter Pan Bodaga
Birkwood
Lodaga Preppon
Copenhagen
Borger Bodaga
Bodaga Bodaga
Storn Bodaga
Helsingør
Indul
Soborg
Marriott Bodaga
Prestige Bodaga
Odense
Reno Bar
Johannes Sophus Ferdinand
Skovgaard
FRANCE
Paris
Hotel Ritz
Le Tour d'Argent
Cach
American Bar
Port Dauphine
Hotel P.M.
Quintin-Riva Bella
Cach
L'Esplanade
Le Royal Breton
Bordeaux
Restaurant L'Auberge
Jenny
Restaurant Au Petit Vatel
Amsterdam
Restaurant Le Jernice
Toussaint
Restaurant Le Petit Boudin
Restaurant Club Le Plessy
Chateau-Fort
Le Sancy
Fila
St. Jean-de-Luz
Hotel Maudou
Riv. Basque
Restaurant Parles
LYON
Edic Domino
Bar Le Melior-Hotel Solit
Le Marlin
Le Reno
GERMANY
Munich
Hotel Internat
Garmisch
Hotel Internat
Braun
Hotel Zor Post
Sando
"Garmisch"
V. St. Jern
Hotel Holiday Inn
London Pub
Frankfurt
Hotel Internat
Rest. Lum's
Stuttgart-Mähring
Hotel International
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Hotel Bel Air

IRELAND
Dublin
Castle Inn
Killing
Court Hotel
Killing Castle
ITALY
Torino
Caffè Torino
Baltimore's Cocktail-Grill Room
Milan
Rist. Casca Corba
Rist. Alla Stella
Bar Battaglia Donini
Bar Basso
Bar Mario
Club M
Venezia
Rist. Grasso de Va
Rist. Vecia Cavana
Rist. Piccola Risorta
S. Vaz
Rist. Hotel Villa Comestabile
Orlando
Rist. Barchetta
Contra
Rist. Barchetta
Rist. Barchetta
Panzano
Hotel Relais El Tovar
A. Nio
Hotel Villa Cipriani
Udine
Riv. Cantarona
Tricestino
Rist. Hotel Barchetta
Lignano Pineta
Grand Hotel Riviera
Rist. Sisto Club
Lignano City
Dancing Drage Club
Pordenone
Rist. Villa Ottoboni
Montebelluno
Rist. De Bruno

Theft, Fraud, Embezzlement, Blackmail

Crimes by Computer Are Increasing in the U.S.

By Thomas O'Toole

WASHINGTON, Dec. 8 (UPI)—The National Institute of Health has just reworked the computers containing detailed records of their psychiatric patients so that only doctors and nurses given secret codes can retrieve the records.

The Secret Service has rewired the computer where it keeps the names of 40,000 people it identifies as potential political assassins so only a handful of coded agents can reach into the machine for their whereabouts.

These examples spotlight a growing concern in the federal government with a new kind of

criminal, the specialist who can use a computer to help him steal, defraud, embezzle, sabotage and even blackmail.

The Secret Service tightened security on its file partly because it does not want any potential assassins infiltrating the file and knowing they are being watched. One reason NIH is putting new locks on psychiatric files is a fear that blackmail might be behind an intruder's attempts to steal the records of members of Congress or the Cabinet hospitalized with mental problems.

Consulting Firms

Consulting firms Ernst & Ernst and Arthur D. Little are advising six federal agencies on how to avoid computer fraud. The Army teaches its logistics officers about computer fraud and the FBI runs a four-week course where frauds are simulated on a computer and agents in training told to break them.

The Department of Defense Computer Institute now employs in its security and privacy department eight people who investigate breaches of computer security. The National Security Agency has a similar team, but its main job is to devise new ways of protecting the agency's supersecret computers from infiltration.

Crime by computer is on the rise, inside and outside the federal

government. More than 400 cases have been documented in private industry in the last eight years, and the victims have lost \$200 million. A study by Congress's General Accounting Office identified 69 computer crimes that in the last two years defrauded federal agencies of \$2 million.

In a case at the Internal Revenue Service, a programmer noticed a buildup of unclaimed tax credits in a computer printout, then rigged the machine to transfer the money to a relative's account. Luck ran out on him when the real claimant appeared to get the money.

An Air Force sergeant computerized a fuel-ordering system for Kelly Air Force Base in Texas, then used the computer to buy bogus fuel from suppliers who did not exist. The computer freely issued checks to the fictitious companies set up by the sergeant and his accomplices.

The checks were sent to banks where the conspirators had opened accounts for their bogus companies. The sergeant manipulated the computer's memory so it did not miss the fuel Kelly AFB was not getting. By the time the sergeant was caught, he had stolen \$100,000.

A Midwest bank president was blackmailed by a teller who forged access to a computer to retrieve the bank president's school records, which showed he had flunked out of college.

A disgruntled employee of a West Coast company wrote a program for its computer so that six months after he quit, the program he left behind erased every account receivable from the company's memory. The company no longer knew who owed it money or how much. It could not send bills. It put an advertisement in a West Coast newspaper pleading with customers to pay their bills. They did not and the company went bankrupt.

Computer espionage is here, too. The State Department almost expelled a Soviet diplomat six years ago for attempting to recruit employees of a computer manufacturer which had access to Pentagon computers.

Of 60 cases involving computer fraud in banks, just three were solved by audits. None of the 60 federal cases cited by the GAO was solved through audits. In one case a computer services firm employee was turned

in by his wife partly because he was spending the money he stole from the company on another woman. A bank teller who used computers at Union Time Savings Bank in New York to embezzle \$1.5 million was caught because he lost the money at the racetrack.

Donn Parker of the Stanford Research Institute, a Palo Alto, Calif., consulting firm, said he thinks at least 85 per cent of computer criminals are not caught.

Of the 200,000 computers at work in the United States only 200 are rated "secure" by computer experts. These are the machines serving the State Department, the National Security Agency, the FBI, the Pentagon and the CIA.

Some computer experts are not even sure about the machines at these agencies. For some reason a Pentagon computer started spitting out a battle plan for World War III a few years ago at a terminal that was not "cleared" to receive the plan.

The positions of every warship, every carrier, every aircraft were laid out in the plan, which was seen by at least 10 persons. Some experts believe computer crime will grow and involve larger sums and bigger crimes. So far, the record for computer crime is held by 23 men who were convicted in the 1975 Equity Funding scandal, where a computer at the Los Angeles-based firm was used to write 64,000 fake insurance policies that were sold for \$2 billion.

The bogus insurance policies were stored on computer tapes with nothing on paper. The tapes revealed only real insurance policies to auditors. The 64,000 fake policies could only be called up by a secret code, which was known only to the 23 Equity Funding officials convicted in the fraud. Seventeen are in prison; five got off with fines and probation sentences.



Leonid Brezhnev with his great-granddaughter Galya, from the photo biography released on 70th birthday.

Biographical Film, Photo Book Mark Brezhnev's 70th Birthday

MOSCOW, Dec. 8 (UPI)—Soviet authorities today announced publication of a photo biography and release of a documentary film to mark the 70th birthday of the Communist party general secretary, Leonid Brezhnev.

Mr. Brezhnev will be 70 on Dec. 19, and the newly announced book and film are the latest entries in a rising flood of public honors for him.

The press agency Tass released a 25-page review of the Brezhnev photo biography, published by Moscow's Planeta publishers, entitled, "Leonid Ilyich Brezhnev: Pages of Life, Pages of the Epoch."

The numerous photographs featured in the album tell a vivid story of the life and activity of Leonid Brezhnev, the son of the Leninist party, the son of the working people who is working with tireless energy for peace, the greatness and prosperity of his socialist motherland," Tass said.

Tass also announced that the documentary film of the life of Mr. Brezhnev, entitled "The Life Story of a Communist," was premiered in his home town of Dneprodzerzhinsk, in the Ukraine.

Break in Soviet Nonproliferation Stand

Russia Will Sell India Atomic-Plant Water

By Don Oberdorfer

WASHINGTON, Dec. 8 (UPI)—The Soviet Union has agreed to sell 200 tons of heavy water for use in India's nuclear program following Canada's refusal to supply the material.

The decision, which became known when India reported the transaction to the International Atomic Energy Agency, is a rare case of Soviet willingness to supply nuclear materials to a country with a bomb-making capability. As such, it is causing concern among some U.S. officials and senior members of President-elect Jimmy Carter's incoming team.

Soviet cooperation is vital to the plan for international action to curb the spread of nuclear weapons, and until now the Russians have been more cautious than the United States and other Western countries in their nuclear exports.

In a meeting last month of the "London Club" of nuclear-exporting nations, the Soviet Union proposed to tighten controls on atomic sales to states that so far do not have nuclear arms. Several European countries are reported to have reservations about the far-reaching proposal. The United States asked that a decision be put off until the next meeting, which will take place after the Carter administration is installed Jan. 20.

Europe Court Upholds Danish Sex Education

STRASBOURG, Dec. 8 (UPI)—The European Court of Human Rights has ruled that Danish parents cannot ask for their children to be exempted from compulsory sex education in state-run schools.

The court said that the lessons on sex "in no way amount to an attempt at indoctrination aimed at advocating a specific kind of sexual behavior and do not affect the right of parents to enlighten and advise their children."

Giscard Back in Paris

PARIS, Dec. 8 (UPI)—President Valéry Giscard d'Estaing arrived in Paris today following an official visit to Yugoslavia.

France Reducing Value-Added Tax To 17.6% From 20

PARIS, Dec. 8 (Reuters)—The government today announced that the value-added tax will be cut from 20 per cent to 17.6 per cent on Jan. 1.

The reduction, which affects most industrial products, will cost the government 8 billion francs (\$1.6 billion) in lost revenue next year.

A communiqué said the move would bring French VAT rates more into line with those of other Common Market countries.

Deputy Finance Minister Michel Durafour told the Cabinet that although the cut in the VAT was not a remedy for price increases, it should help support the current price freeze until the end of the month.

Prime Minister Raymond Barre said in September that the VAT would be reduced to 17.6 per cent as part of his fight against inflation.

The government also announced measures to reduce unemployment, which officially totals 1 million. A spokesman said the state would publish a monthly list of job offers by region and by profession. It will also extend the benefits of apprenticeship contracts and of credits to firms that create new jobs.

Man Shot in Attempt To Flee East Germany

FRANKFURT, Dec. 8 (UPI)—A man apparently trying to flee to the West was shot on the East-West German border early today, possibly by a booby trap.

West German border police reported.

Police said they heard a shot followed by a man's cry, "Help, I am dying. Let me across." Later they saw East German border guards carry a man to an automobile.

Seoul Insists U.S. Return KCIA Age

Denies He Defied
In Bribery Scan

SEOUL, Dec. 8 (UPI)—The government official today said the United States should return to a South Central Intelligence Agency, claiming that a government has found it to believe that the alleged "chase to stay in the States of his own will."

The official, speaking to a group of foreign correspondents and asking not to be brought up in the case, said that Mr. Kim, 40, of the staff at the Korean Embassy in Washington, had defected last week and had volunteered to the formation of how South agents bribed U.S. men to influence pro-Seoul.

"The Korean side demands the United States authorities release Kim's physical freedom, compliance with internal and external practices," the official said.

The Korean side has ground to believe that Kim "chose to stay in the States of his own will," by the United States and the Seoul side went on.

Question of Kim's release has been discussed for some time. Mr. Kim, 40, was a deputy station chief for Central Intelligence Agency in the U.S. capital. He was sought by South Korean agents following reports that he had defected.

The Seoul official said Mr. Kim as the KCIA station chief. He referred only as "Counselor Kim."

The Korean government, through diplomatic channels, repeatedly requested the government to release Kim's physical freedom, arrange an interview with the representatives of the Korean Embassy in the States," the official said.

"The United States has failed to reply to this. It has even withheld information on Counselor Kim's present whereabouts, and his family is placed under surveillance agents of the U.S. with the Seoul official declared.

Blackmail Protested

SEOUL, Dec. 8 (AP)—A group of Korean students today said that their government had been blackmailed in Washington. They said that the full story of the bribery scandal in Washington was being withheld.

Students today held a demonstration by about 500 students, most of them at Seoul National University, demanding the government's black news of the scandal. A group of demonstrators were arrested.

Park Foe Convicted

By S. Korean Court

SEOUL, Dec. 8 (UPI)—The Seoul District Court today convicted a former National Assembly member on charges of election violations yesterday and sentenced him to a year's imprisonment.

The Seoul District Court today convicted a former National Assembly member on charges of election violations yesterday and sentenced him to a year's imprisonment. The defendant, who was a member of the National Assembly, was charged with election violations and sentenced to a year's imprisonment.

Paris Talks Begin On Press Dispute

PARIS, Dec. 8 (UPI)—A trade union leaders and a government-appointed mediator talks today on a press dispute that mushroomed into widespread newspaper strike.

As the unions agreed to a truce with the government, the strike ended. The strike was a result of a dispute over the government's plan to increase the number of newspaper editors. The strike was a result of a dispute over the government's plan to increase the number of newspaper editors.

Plainclothes Police

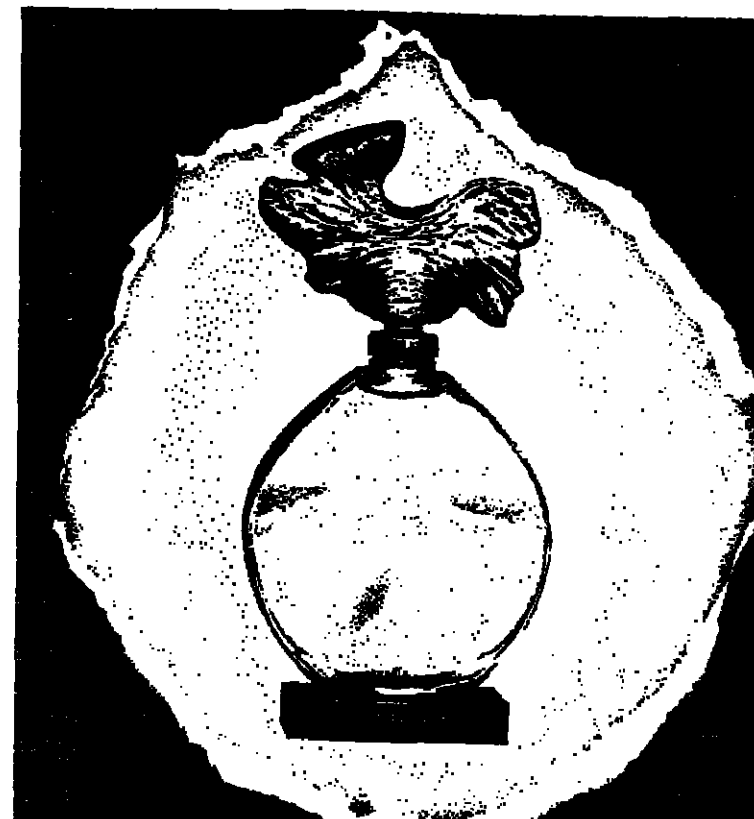
To Ride Rome Buses

ROME, Dec. 8 (UPI)—Plainclothes police will ride Rome buses after dark here in an effort to halt a wave of attacks against public transport. Police officials said the attacks were a result of a dispute over the government's plan to increase the number of newspaper editors.

AUTHORS WANTED

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Vast Networks of Air-Raid Shelters Tunnel Under the Major Cities of China

By Drew Middleton

REN, CHINA (UPI)—With a confident smile, the hotelier pushed a button. The door of the rather dingy, old-style building swung open to the tunnels of Dairen, which are more than 60,000 long and can shelter 50,000 from air attack.

The tunnels—they are really air-raid shelters—are built by similar systems in Peking, Shenyang and other cities and by smaller systems in smaller cities. This correspondent, who is on a three-week tour of the area, saw the tunnels of Dairen and Foreigners walked for 45 minutes to the tunnel beneath Dairen, retracing a step.

Construction, begun as a plan against possible Soviet attack, is part of China's huge defense effort, which includes an armed militia of 5 million that starts yearling defenses and a trained reserve for the Liberation Army.

The tunnels are built by the Soviet Union and the Chinese, military and civilian, while critical of the military presence in South China, which they term an occupation, are believed by foreigners to be satisfied that the Chinese there offer a partial counter to Soviet power in the northwestern of the Pacific.

Amur Bay Facilities

and of the Vietnam war, China with no fear of operations in southeast Asia, another problem has there. The Chinese are only worried over the possibility that in public that the U.S. will strike a bargain with Vietnam, exchanging the island for the use of Cam Ranh and its airport.

For the Chinese strategic of Japan, it is ambiguous. The national memory re-figures Japanese rearmament. Chinese officials are aware of the United States is dis-posed with Japanese defenses, but foreign sources be-lieve that, granted China's con-quer the Soviet Union, it is reluctantly accept such action.

He, with which China was in a frontier conflict in early 1960s, no longer to worry the Chinese. They give and give political sup-ports, the shelters, Liu said, the Foreign Ministry's representative in Dairen, said facilities there, and others

had been dug in obedience to Chairman Mao Tse-tung's dictum after the fighting with the Russians at the Ussuri River border in 1969. His advice, endlessly repeated, was to dig deep tunnels, store grain everywhere and avoid seeking hegemony over others.

Province of China

The third administration, Chinese officials, invariably emphasize, does not extend to Taiwan, which they regard as a province of China whose future is to be settled by their alone.

The Dairen tunnel is a result of the labor of 500,000 workers, the vast majority volunteers from factories and shops and from agricultural communes on the outskirts.

In the first section of the tunnels, built in 1970, the way-way is four feet across, the ceiling seven feet high. The lighting is bright in the main passage but dimmer in side passages that lead to reservoirs, ammunition dumps and first-aid posts.

Medical accompaniment is provided by a separate voice transmitted by a closed-circuit system when she flats, which is often, even the solemn Chinese guides wince.

There is an Alice-in-Wonderland air about the place, but it is not for children. Mr. Liu indicates weapon slits angled into the wall—a machine gun there, a rifleman to back up the machine gun over there.

There are six reservoirs and large silos for wheat and rice. Passages lead to decontamination centers for use after nuclear or gas attacks and to clinics, schools, kitchens, machine shops, dormitories and assembly halls. Ventilators pump in fresh air and machines keep it reasonably fresh.

In an emergency, the officials said, the shelter could be filled within 10 minutes. Should hostile attacks continue, they said, war production could be carried on by small factories in the tunnels.

At Shenyang, the electrical equipment works displayed underground power stations that were being built for installation in tunnel systems. These are smaller than the normal stations but were said to have about the same capacity.

The tunnels' exits, the officials said, lead to the hills around the city, where those who escape would "carry on the people's war against the invaders."

Red Guards' School

Defense of the tunnels would rest on militiamen firing rifles and machine guns from pillboxes set in the walls at almost every passage turning. The militia have improvised other defenses, among them a wide-bladed propeller set in the passage that looked as though one hand grenade would demolish it and steel mats studded with three-inch spikes.

Smaller tunnels have been built under schools and apartment houses through northeastern and eastern China. That at the Red Guards' school on the outskirts of Dairen had been carved out of the hillside to a length of 1,600 yards, with space for seven classrooms accommodating 80 pupils each, a clinic, toilets and showers and a decontamination room.

Even farther into the hills that ring Dairen to landward, the Chinese have built what they call the department store tunnel—a wide, crescent-shaped excavation stocked with food, clothing, bicycles, radios, even toys.

Sales people stood behind the

counters, but there was a grotesque artificiality about the scene. In war, the toys and bicycles would no doubt give way to food, water and ammunition and field hospitals.

The Chinese insist that the tunnels would be safe against air attack. The main shelter area in the center of Dairen is 7 to 30 yards below the surface and in many places has been cut through solid rock.

Nuclear attack and the consequent radiation would raise serious problems, the officials conceded. Steel doors have been built in some areas to keep out radiation. Gas masks produced by local industry would be available in the event of chemical attack.

The Chinese assumption is that those remaining in the tunnels would carry on local government, produce spare parts and ammunition for the military and maintain communication with other tunnel communities. Success, they concede, rests on the capability of the militia, a force without parallel in other major military powers.

100 Million in Militia

Wu Hsiu-chan, deputy chief of the general staff of the Defense Ministry, asserted: "We have more than 100 million militia. We can say for certain that the equipment for the present militia is better than in the past. At present, the militia is getting quite enough ammunition. There lies the source of our strength."

The effectiveness of the militia's manpower and weapons depends on the kind of war initiated. The militia would be important, even decisive, in the event of full-scale invasion; its effectiveness in a long-range war focused on key frontier areas would be less.

Every industrial plant, light industrial factory and farming commune supports a militia formation. Those paraded for a foreign visitor, ranging from teenagers in a high school to army-directed formations in a textile machinery factory in Shanghai, displayed what appeared to be a high level of basic training and an acute shortage of modern weapons.

The factory boasted a 3,000-man militia unit with 1,200 in the "basic" or highly trained segment. Clad in blue coveralls and bamboo hard hats, 32 of the basic militia, about a third of them women, were assembled to demonstrate their ability to defend the factory, under a veteran regular soldier's command. All were armed with semi-automatic rifles with fixed bayonets and went through bayonet drill with seeming enjoyment.

At Dairen and Nanjing, children of 10 to 12 conducted the

same type of exercise. They do so, the visitor surmises, only because the high command believes that, in a war, the ultimate combat will be on a one-on-one basis.

When a whistle blew in the Shanghai factory, the militia rushed to the anti-aircraft guns nearby. The covers were torn off and the sights adjusted, and a hail of fire was directed at balloons. Extra militia, those less trained, knelt and added their rifle fire to the general clamor.

Training Each Week

The militia at this factory do one to two hours of training a week. Their weapons were clean and they were alert. Although the gunners seemed to believe that their weapons were the best available, the quadruple-mount heavy machine guns they were firing are primitive compared with U.S. and Soviet weapons.

The officers said the guns could fire 600 rounds a minute in action—a barely adequate rate against modern aircraft if it is a big if—there is adequate warning and radar tracking.

The officer who commanded the unit said that no radar was available and that information on an enemy's flight course would come from a central headquarters in Shanghai. Soviet fighter-bombers, he indicated with his hand, would come in at low level.

Did he expect to knock down fighters strating at 600 miles an

Russia to Give Push To Tourist Industry

MILAN, Dec. 8 (UPI)—Soviet Tourism Minister Sergei Nikitin said that his country will spend \$6 billion over the next 15 years to turn the Soviet Union into a prime tourist attraction.

Mr. Nikitin, here to meet his Italian counterpart, Dario Antonozzi, said: "In the next 10 years, the Soviet Union will be in the forefront of international tourism." He announced a plan to build hotels, camping grounds, tourist villages and service stations.

New Swiss President

BERN, Dec. 8 (Reuters)—The Swiss Parliament today elected Justice and Police Minister Kurt Furgler, 52, to be the Swiss President for 1977.

being without radar sighting for his machine guns." He shrilled and said that he knew that surface-to-air missiles would be more effective but that for the present, the factory's defense would have to rest on the guns deployed.

'Lessons of Mao'

His forces, he said, are well trained in marksmanship, grenade-throwing and bayonet drill, and they know the precautions in a nuclear attack. "We drill in anti-nuclear and anti-gas warfare, in first aid and in emergency repairs," he said. "We have studied the lessons of Chairman Mao Tse-tung and we are prepared and self-sufficient."

The militia also receives lengthy ideological instruction on

the self-reliance in the face of the Japanese and the Chinese Nationalists. "The young people must be reminded of the sacrifices of their fathers and mothers—they must not forget that the individual can do much," a militia instructor said.

What remains unclear is how China would counter air and missile attacks without extensive radar and without a practical communications system that embraces both the regular forces and the militia.

In this context, commanders in factories and in agricultural communes left unanswered the question whether the militia effort was partly for show. Its ultimate value would presumably be in the event of a mass invasion.

"Look, this fire port commands the well and this the pigsty where the invaders will surely go," an elderly veteran said in a village south of Peking.

What happens, he was asked, if there are no invaders, no tanks to be booby trapped, no sentries to be killed? He shrugged his shoulders, for that would be a kind of war outside his experience, but then he brightened and said: "They must fight our way. They cannot conquer China without mass invasion. If they do, we will return to our tunnels and defeat them as we defeated the Japanese and the Nationalists."

African Republic Becomes Empire

NDJAMENA, Chad, Dec. 8 (Reuters)—The Central African Republic has proclaimed itself an empire. Its radio hailed Sallah Bokassa, who has been President since 1966, as its first Emperor. He was formerly known as Jean Bedel Bokassa.

The broadcast on Saturday said the former French colony, which gained independence in 1960, would now be called the Central African Empire.

The change was embodied in a new Constitution, adopted by a special congress of the country's only political party, Mesan Renouveau (Movement for the Social Evolution of Black Africa), the radio added. It said: "Long live Bokassa, the First, Central African Emperor."

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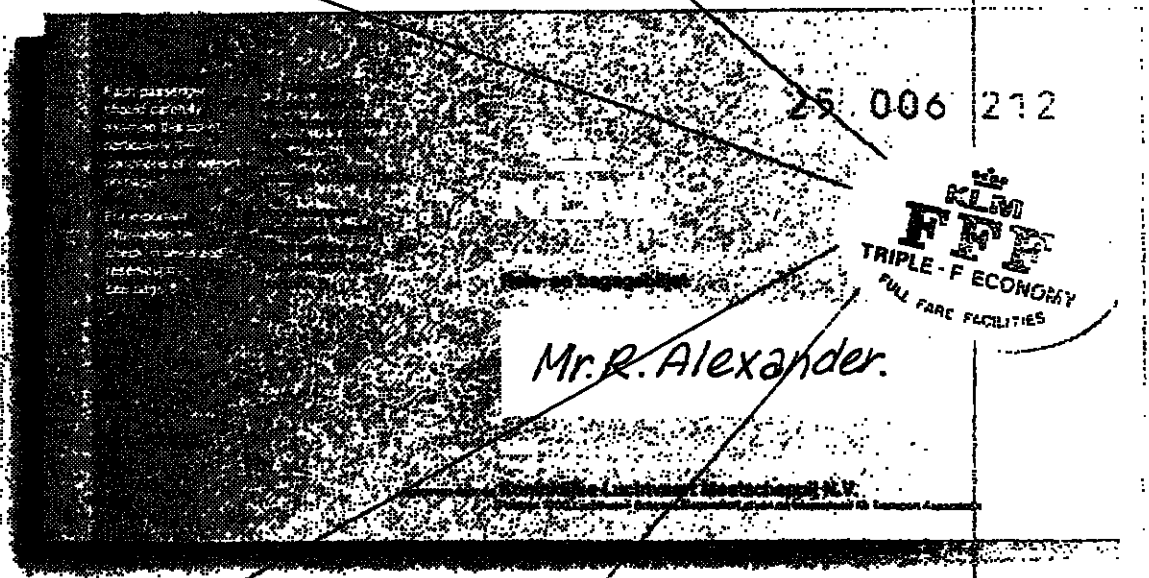
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في الأصل

Japan Votes, Uneasily

The Japanese election puts one more country on the long list of those where the government is getting weaker as the economic choices get harder. The Liberal Democratic party, in office continuously since it was formed more than two decades ago, has now lost its parliamentary majority for the first time. Through the hasty expedient of signing up a handful of independents, it is managing to keep itself in power. But it has suffered a severe erosion of its authority and the government plans to resign.

The odd thing about the election is that, while the Liberal Democrats were clearly the losers, it is hard to see any winner. On the far left the Communists lost more than half of their seats. The Socialists, the second largest of Japan's parties, gained marginally—but they still have fewer than half as many seats as the Liberal Democrats. Though the Liberal Democrats' standing has been slowly diminishing for years it continues to dominate Japanese politics in the face of a badly scattered and fragmented opposition.

Like all the others among the rich industrial nations, Japan now has to deal with urgent issues of foreign economic policy. In response to the recession and the strain of paying for its enormous oil imports, Japan has now mounted an astoundingly effective export drive. It is generating vast surpluses in its trade with both Europe and the United States. The European Common Market has already protested and begun to take counteraction. The United States is more tolerant of this imbalance, seeing in the influx of highly competitive Japanese goods a powerful force to restrain domestic inflation. But this country's imports from Japan have recently been running about \$6 billion a year more than our exports to Japan—a disparity that no one considers to be sustainable over any prolonged period.

The basic reason for Japan's present emphasis on exports is simply that domestic demand there has still not recovered from the recession. But most of the other industrial countries have very similar troubles of their own, and they are not greatly inclined to help Japan at their own expense. Throughout Western European politics there is a general pattern of hairline majorities in some parliaments and minority governments in others. It is, you might say, the political expression of public indecision leaving European governments, like Japan's, with no solid base for sustained leadership in Europe as

in Japan, there is now the unaccustomed prospect of high unemployment for the indefinite future.

One of the curiosities of postwar politics was the tacit decision of all three of the defeated nations to turn their public life over to the forces of the democratic right, which continued to rule serenely through election after election. The pattern of one-party democracy broke down first in West Germany. It turned to a vigorous two-party system, you might speculate, under the pressure of East German infantry on its border and Soviet tanks in Berlin. But in the other two countries—Italy behind its mountains, and Japan behind its seas—government continues to be carried on among the highly intricate factional alliances within one large and dominant conservative party.

For two countries of totally different cultures, the parallels between Italy and Japan are striking. The ruling parties in both countries have been losing strength because of the very processes of rapid economic growth that they fostered. Population in both has been flowing from the rural countryside to the cities; the shopkeepers are fewer, and the corporations are bigger.

Both Japan and Italy cherish consensus. The arithmetic of parliamentary seats means less there than in a country like, say, Britain, with an aggressively adversarial tradition. As they are currently demonstrating, governments in both Japan and Italy can continue steadily in office despite election results that, elsewhere, would prove fatal. But, unhappily, there is still another similarity. While both of these governments were originally established under the aegis of the United States, both have now been poisoned and weakened by the Lockheed scandals—which also came to them from the United States.

Japan's Premier, Takeo Miki, is expected to resign as the result of Sunday's defeat. For the past year he has been working to expose and prosecute the Japanese principals in the Lockheed affair. The rest of the party's leaders have repeatedly attempted to remove him as a menace to unity. Now they will succeed, probably replacing him with his old rival, Takeo Fukuda. That will re-establish consensus. But it is not likely to give Japan a government whose strength is commensurate with the country's imposing economic power.

THE WASHINGTON POST.

Energizing Energy Policy

There's a move afoot to shut down the Joint Committee on Atomic Energy. We hope, not without a tinge of regret, that it succeeds. In its early times this 30-year-old congressional panel performed worthily in guiding the nuclear-weapons program and fostering a private nuclear-power industry. It was sailing in an uncharted sea, and it did so with a sure and responsible hand at the tiller. Its fault was that it clung too long and hard to an almost missionary conception of the role of nuclear power. It did not keep up with rising anxieties about safety, wastes and proliferation or, indeed, with the new equations of energy "shortages". And it became autocratic in style.

Thus did the Joint Committee on Atomic Energy lose the deference that legislators commonly—too commonly—show for each other's fallings. In the last few years, others in Congress have repeatedly scuttled the committee's bills and struggled against its obstruction of nuclear legislation originating anywhere else. A substantial majority now seems prepared to put out of its misery a committee that has been enfeebled by a slew of resignations, election defeats and other political accidents.

The Democratic Caucus is expected to parcel out the committee's jurisdiction among four other committees. The new Senate will soon consider a proposal to fold atomic energy into a new energy and natural resources committee. Both approaches are sound.

The Congress, however, has a great deal more to do in the way of reorganizing to improve its own policy-making capacity in nuclear affairs, not to speak of energy affairs as a whole. Some 18 other committees already have a piece of the nuclear-

power action, for instance. The Senate may be headed toward the more comprehensive structure of an energy and natural resources panel. But the House, where no similar reorganization effort is evident, is taking the opposite tack: In handing over atomic energy's functions to four other committees, it would be dispersing responsibility for nuclear policy. This is what lends superficial appeal to a rear-guard action to give atomic energy a new and broader life as a joint energy committee. Given the proven flaws of this committee in particular and of the joint legislative committees as a species, this is a poor idea. But it is a response, if an inadequate one, to a widely perceived need for more efficient congressional policy-making in this field.

President-elect Carter has promised to make executive reorganization, starting with energy, his first domestic priority. Whether it's politically wise for him to feel he must make good at once on this particular campaign pledge may be debatable. More to the point here, however, is that he must relate his reorganization plans, tactically and substantively, to those of Congress. It's no easy task to organize either branch to deal with energy. But for either to proceed without due respect for the other can only make trouble. With both branches controlled by the same party, collaboration between the two should be possible. At the least, it should be tried.

In brief, it's not enough simply to write off the Joint Committee on Atomic Energy. Its prospective demise should be regarded as part of a process of energizing, if you will, the making of energy policy—a process that still has far to go.

THE WASHINGTON POST.

International Opinion

Opportunity for Vance

By nominating Cyrus Vance as secretary of state, Mr. Carter has signaled that American foreign policy is to undergo a change of style but not of fundamental substance. He has chosen a tough, able and experienced man from the East Coast Establishment, so that allies and adversaries can now be assured that Mr. Carter's own lack of experience in foreign affairs will be balanced by a steady hand at the State Department. Against this, Mr. Vance has around his neck

the albatross of his long support for the Vietnam war. . . . He also has the lesser disadvantage of being relatively unfamiliar with the Third World and its related economic problems, which are going to play a larger role in American foreign policy. Neither of these disadvantages need be too damaging. He is a sufficiently fair-minded man to have few firm enemies, and he is sufficiently able to adapt to the new and very different challenges he now faces. . . .

—From the Times (London).

In the International Edition

Seventy-Five Years Ago

December 9, 1901.

BUENOS AIRES.—A dispatch from Santiago de Chile announces that the Chilean Secretary for Foreign Affairs and the Argentine Minister have settled the pathways incident. It has also been resolved that the Chilean claims about the alleged invasion of the Ultima Esperanza shall be settled after the reception of a report on the matter. The danger of a conflict has therefore disappeared.

Fifty Years Ago

December 9, 1926.

NEW YORK.—A second and more fruitful arms conference at Geneva was predicted by Rear Admiral Henry P. Jones USN, who returned recently on the United States liner George Washington. "At the conference just held," said Adm. Jones, "all the delegates put their cards on the table. The ground has been prepared for a final and more satisfactory conference. It will probably be held next year."



A Fresh U.S. Look at Europe

By C. L. Sulzberger

BRUSSELS.—Jimmy Carter's designation of Cyrus Vance as the next U.S. secretary of state is taken as an excellent sign by Western Europe. Although it has been successively denied, amused and occasionally bewildered by Henry Kissinger's diplomatic brilliance, it has not always been thoroughly convinced of his benevolent intentions to the cause of European unity.

Indeed, he has on occasion confided to intimates a skepticism concerning Carter's assertions that the United States should promote European unity. Sometimes Kissinger doubts whether Washington could effectively do so, and other times he wonders whether it should.

Such ups and downs are explicable as tactical maneuvers rather than fundamental attitudes. Washington has apparently feared the possibility that such organizations as the European Program Group, which met this year in Rome to discuss cooperation of Europe's defense industries, might cooperate at the expense of U.S. interests.

Known in Europe

Quite a few statesmen from the European Community already know Vance personally. He has spent some time in the general NATO area, as a Vietnam peace negotiator in Paris and as a Cyprus mediator between Greece and Turkey. He is well regarded as sympathetic to the Atlantic Alliance as well as the EEC.

The community is determined to strengthen its position as a world force while at the same time doing its utmost to work with the United States on the closest terms. Sir Christopher Soames, who retires next month as EEC commissioner for external relations (foreign minister for "Europe"), has this to say:

"Inevitably there was bound to be a certain schizophrenic line in Washington. The United States genuinely wanted to see West Europe get stronger and better organized, thereby more able to look after itself and share common burdens. Not only the military burden in NATO but sup-

porting our general Western concept of a way of life. . . . Therefore Washington essentially feels that a strong 'Europe' is good news. But this 'Europe's' interests cannot be the same as those of the United States except in the broad sweep of things. Differences on agriculture are an example of what hits one in the face when one gets to lesser fields."

Looking back on his four years in this job, Soames acknowledges that, thanks partly to world economic problems and the intermittent energy crisis, the EEC is still less "cohesive" than he would have wished. Yet he stresses its increasingly important influence. "Europe's 250 million people now run 20 per cent of the world's trade, outside the EEC's own frontiers," he adds.

Ties With Asia

China has recognized the EEC and accredited an ambassador. Soames hopes there will be an eventual Sino-European commercial accord. The community's trade is increasing with the Indian subcontinent, East and Southeast Asia, Africa and North America. "We have become a personality on the world scene," he claims.

"EEC has notably increased its stature during the past four years even if it is still far from achieving its fundamental goals. It did a great deal for Portugal during that country's post-declaration crisis. It is now eagerly wooed by Spain. It has been most helpful to Greece since democracy regained power there."

"It is gaining importance for Turkey and Yugoslavia, with which we have just signed an economic cooperation accord. Greece has applied for full membership, now being negotiated. Turkey has not yet made such application but we will have a new association agreement within three months."

Testimonial

Perhaps the greatest testimonial to "Europe's" progress is in the statement made from Moscow's Comecon group of East European Communist nations that

it should deal directly with the EEC as a bloc. The EEC refused because Comecon is dominated by the Soviet Union, its overwhelming No. 1 member. The EEC is in no sense dominated by the United States, which is not a member and with which it often has disagreements.

The European Community merely suggested to Comecon that if any of its members wanted commercial deals, they should feel free to do so bilaterally between each applicant and the EEC, thus avoiding Soviet attempts to put pressure on individual Comecon countries seeking to improve their own trade with the West.

The story of "Europe's" wavering but steady rise is undramatic and far from glamorous. But it exists. And the nine present members of the club, plus the list of those who hope to apply, all hope there will now be more clear-cut, steadfast U.S. support for this new body than has always been evident in the recent past.

Getting a Handle on the Mideast

By Joseph Kraft

WASHINGTON.—A push, not a rush, is under way in all quarters for a new go at settlement in the Near East. But the incoming administration needs to sort out possibilities and analyze proposals.

The best way to buy the time is not the usual device of sending abroad a prestigious emissary. A far better way to get a handle on the Near East is to bring here to Washington, for separate meetings with Mr. Carter and his aides, the leaders of Israel and the three neighboring Arab states.

The most visible mover behind the new momentum for settlement is President Anwar Sadat of Egypt. No U.S. senator, congressman or journalist has been to Cairo recently without getting an earful of Mr. Sadat's eagerness to resume peace negotiations through a Geneva conference. Nor does the Egyptian President mince words about his readiness to "end the state of war" in return for Israeli concessions of occupied territory to Egypt, other Arab states and the Palestinians.

View of Assad

President Hafez Assad of Syria, once a prime obstacle to further peace moves, has now changed his position. In return for Egyptian approval of Syria's virtual occupation of Lebanon, he is no longer opposing Mr. Sadat's initiative for peace. As he put it to me in a rare interview last week: "I am not saying the time is not right for settlement."

King Hussein of Jordan, Israel's third Arab neighbor, has favored talks at all times. With neither Egypt nor Syria now barring the way, he can be more forthcoming than ever in expressing his interest in a settlement.

Perhaps the biggest change has been in Israel. After a brief spell of sour comment on the Egyptian initiatives, Premier Yitzhak Rabin has gone onto the peace offensive himself. While some believe he has turned about only for propaganda reasons, my strong impression is that the play of internal politics preceding the election due next year forces him to come out as a leader who can

Harry Debelius

From Madrid:

After a new Cortes has been elected next year, close will Spain be to a Western European style democracy?

MADRID.—With the Spanish referendum only days away, it is time to ask the question: After a new Cortes (parliament) has been elected next year, how close will Spain be to a Western European style of democracy?

The answer, barring some abrupt change, is: closer in spirit than in legal framework but moving in that direction.

The referendum next Wednesday will simply ask Spaniards if they approve the proposal for "democratic reform" which would give the country a two-chamber parliament elected by direct suffrage, to replace the current largely appointed Cortes which was bequeathed to Spain by the late Generalissimo Francisco Franco. It is a far from unambiguous question that the vote will be overwhelmingly affirmative in spite of a boycott threat from the far right. But to make doubly sure, the government of Premier Adolfo Suarez is spending \$10 million of the taxpayers' money on an advertising campaign telling them to vote "yes," just as Gen. Franco did in 1958 on the law of succession.

Approval of the referendum will not bring instant democracy. For one thing, the representative structure of the legislature to be elected is weighted in favor of conservatives and rural areas as opposed to heavily populated industrial centers. For another, the refusal so far of the Premier to recognize the Communist party before the elections presents a major obstacle for talks with leftist opposition parties.

A Possibility

Putting these questions aside for the moment, consider the possibility that there might not even be a new post-election government. As the law stands, Premier Suarez is under no obligation to resign following the elections. His mandate is for five years. It is not inconceivable, if circumstances limit King Juan Carlos's choice of a premier, that Mr. Suarez might be asked to stay on.

In any case, the King alone cannot appoint a premier. He must pick from a list of three candidates drawn up by the powerful Council of the Realm. It is theoretically possible for the Council to keep the name of the parliamentary majority leader off the short list. Nevertheless, it is probable that the Council will be in the King's pocket. The reason is that the composition of the Council must be changed when the parliamentary structure is changed. Where, for example, as the Organic Law states, could one find "the highest ranking prelate, with the most seniority, among

those who are members of the Cortes?"

The proposed Council of the Realm includes an equal number of members elected from and from the Congress and the Senate. The King will name the president. The Council (the overall law chamber) and the King will name the members of the Council of the Realm. The King will name the members of the Council of the Realm. The King will name the members of the Council of the Realm.

Into High C

It is widely anticipated the succinct wording of the referendum, asking the voters to approve "democratic reform," will be used by the government to shift into gear making changes on "six" votes have been. One of the first things announced is expected to eliminate the requirement that the government be approved by the Cortes. The Suarez government deliberately postponed this important municipal previously expected to last month. The chances Mr. Suarez put them off because he had his in but also because they were widely sneered at as virtually every party of the center remains in hence ineligible to pre-empt.

When those elections close, nobody knows.

Electing Cover

As for electing a government, Spain's lead just not got around to. The powerful government still appointed by the government, and the pro may remain in office—able, prejudice to the of the parliamentary until after the new comes in. Still, it is known changes in the law in the high on the prior. The King's present government is unlikely to be replaced. It is also more probable that the King will choose to accept the system as one which was constituted. If he had the original and legality system, as the apostle he would have placed the presence and legality monarchy itself. After a Franco overthrow, a republic, a kingdom.

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Kadar Says Eurocommunism Is Not a New Anti-Sovietism

By Paul Hofmann

VIENNA, Dec. 8 (UPI).—Hungarian Communist leader Janos Kadar said yesterday that he did not share the view that Eurocommunism was a new form of anti-Sovietism.

Mr. Kadar, reputed to be the most popular Communist party chief in Eastern Europe, made what sounded like a cautious opening to liberal currents in the Communist movements of Italy, France and Spain during a news conference here.

The 64-year-old leader, who came to power when Soviet forces crushed the uprising in his country 20 years ago, is not known to have ever publicly answered the questions of reporters in a Western country before.

Mr. Kadar's hour-long news conference at the Hungarian Embassy came before the end of a two-day official visit to Austria.

Autonomist Tendencies

The question about Eurocommunism was asked by an Italian newspaperman who referred to a recent magazine article by Todor Zhivkov, Bulgaria's Communist party chief, denouncing the autonomist tendencies in various Communist parties in southern and Western Europe as hostile to Moscow.

Mr. Kadar's reply was brief: "I don't share this view."

An Austrian journalist wanted to know why Soviet troops were still stationed in Hungary even though the country was not threatened by any of its neighbors.

Mr. Kadar said that the presence of Soviet forces in his country depended on "the general situation of world politics," and he expressed the hope that all foreign troops stationed in various European nations may eventually be withdrawn by common accord.

Questioned about possible cooperation between Communist and Socialist or Social Democratic parties, Mr. Kadar observed that their relationship was "no simple one," but that contacts were useful and that "the interests of peoples" must be put above party interests.

The Hungarian leader pointed to the "good atmosphere" of his talks with Bruno Kreisky, the Socialist Premier of Austria, as an example of ideological co-existence.

Broader Results

Repeatedly, Mr. Kadar praised the results of last year's East-West conference on security and cooperation in Europe at Helsinki and said that the results must be broadened. The Helsinki parity, he said, was not "an end but a beginning."

The Hungarian leader confirmed that he planned to make a trip to West Germany next year. He said that it was true that his present stay in Vienna was his first official visit to a capitalist country, but that he did not entirely lack first-hand knowledge of the capitalist world.

Shah Orders Pardons For 282 Prisoners

TEHRAN, Dec. 8 (UPI).—Two hundred and eighty-two prisoners sentenced by military tribunals have been pardoned on orders of Shah Mohammed Reza Pahlavi, the Iranian armed forces commander announced.

The pardons were the latest in a series during the year to mark the golden jubilee of the Pahlavi Dynasty founded by the present Shah's father. The announcement said that the prisoners will be released Thursday.

Ethiopia Frees 109

MOSCOW, Dec. 8 (UPI).—Ethiopian authorities have released 109 persons under an amnesty announced by the provisional military government. Tass said in a dispatch from Addis Ababa.

Mr. Kadar recalled that he visited United Nations headquarters in 1960 and with a smile added: "New York, I regret to say, is not a Socialist metropolis."

The Hungarian leader said that his countrymen were free to travel to Western countries and added that many did. This was a form of political education, Mr. Kadar observed. In the advanced capitalist countries "the fences are not made of sausages" and unemployment and other insecurity were widespread, Mr. Kadar remarked.

Kadar Leaves Vienna

VIENNA, Dec. 8 (AP).—Mr. Kadar left here this morning. He was seen off by Chancellor Kreisky.

New Gonorrhea Strain Gains; Type Is Resistant to Penicillin

By Bernard Wideman

MANILA, Dec. 9 (UPI).—A new strain of penicillin-resistant gonorrhea is frightening military health officers at the two large U.S. military installations in the Philippines.

The incidence rate for the new strain of VD has been rising among the 15,000 GIs at Clark Air Base, 50 miles north of here, and Subic Bay Naval Base, 80 miles northwest of here, according to an Air Force doctor at Clark.

Six months ago there were no known cases of the new strain, the doctor said, but in the three months from August to October 410 GIs from the two bases contracted it. This is about 15 per cent of all gonorrhea cases reported on the two bases during that period. November figures have not been compiled yet.

Although the new strain, called "beta-lactamase-producer" by the World Health Organization, can be cured by a semisynthetic called trobicin (spectinomycin), both the identification and the treatment of the new strain are costly.

Common gonorrhea can be identified through a smear test, while the new strain requires culturing for identification; penicillin treatment per case for common gonorrhea costs the U.S. government 50 cents, while trobicin treatment costs \$3.50.

The new strain first showed up in the United States in April, when a GI who had left Clark a week before was discovered with the disease.

U.S. Will Protect New Fishing Zone

SANTA CRUZ DE TENERIFE, Canary Islands, Dec. 8 (AP).—When the United States expands its offshore exclusive-fishing zone to 200 miles next March 1, it will immediately begin to enforce rigidly all rules on fishing within that zone, a State Department official said here today.

Nicholas Schoenwald, of the Office of Fisheries Affairs, said that one reason for the crackdown is that "a voluntary international scheme is not capable of insuring regulations."

He said at a meeting of the International Commission for the Northwest Atlantic Fisheries that, in addition to inspecting foreign fishing vessels for possible violations of commission rules on conservation measures, including catch quotas and mesh sizes, the U.S. authorities will also make arrests for violations. The commission members now only report violations to fishermen's home countries, without arresting the fishermen.



Janos Kadar

Andreotti Gets Assurances U.S. Will Try to Help Italy

WASHINGTON, Dec. 8 (AP).—Italian Premier Giulio Andreotti is returning home with the Ford administration's promise to do what it can to ease Italy's economic problems. His two-day official visit ended here today.

After a meeting with Mr. Andreotti, Treasury Secretary William Simon said yesterday that the United States would explore ways to provide "tangible" support for Italy's austerity program.

Mr. Simon's statement gave no details, but other officials said U.S. assistance would probably take the form of an emergency fund from which Italy would be authorized to make withdrawals in the event of a currency crisis.

Curbing Speculation

A top U.S. official said the mere existence of the proposed fund would inhibit speculation against the lira.

Mr. Andreotti's visit, which included talks with representatives of both President Ford and President-elect Jimmy Carter, occurred during a crucial period for Italy's five-month-old Christian Democratic government.

Rome is awaiting decisions by

the International Monetary Fund on a reported \$1-billion loan application and by the oil producers' cartel on a price increase. Italy is among the Western industrialized countries least able to afford a new price increase.

Also pending are labor-management wage talks, which will have a direct bearing on whether Italy will be able to bring down its high inflation rate.

Officials said the U.S. attitude on creation of an emergency fund would be influenced by the IMF decision. In his statement, Mr. Simon suggested that a favorable decision was forthcoming when he said he looked forward to the completion of successful negotiations on the Italian loan bid.

Rhodes Re-Elect Minority Leader

WASHINGTON, Dec. 8 (AP).—Rep. John Rhodes of Arizona won unanimous re-election today as the House minority leader.

Rep. Rhodes was first elected to the leadership post on Dec. 6, 1973, to succeed Gerald Ford when Mr. Ford became Vice President.

Republicans at a caucus also unanimously re-elected Reps. Robert Michel of Illinois as minority whip and John Anderson of Illinois as caucus chairman.

Thai Guerrillas Kill Policeman, Wound 14

BANGKOK, Dec. 8 (UPI).—Communist guerrillas attacked a police camp 72 miles east of Bangkok with rockets and rifles before dawn yesterday, killing a corporal and wounding 14 other policemen, the Interior Ministry reported today.

It was the closest the Communists have come to Bangkok during the rise in insurgency that began two months ago.

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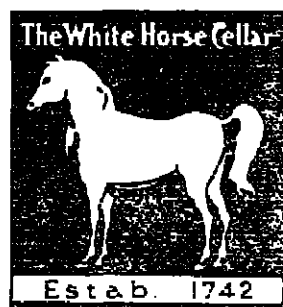
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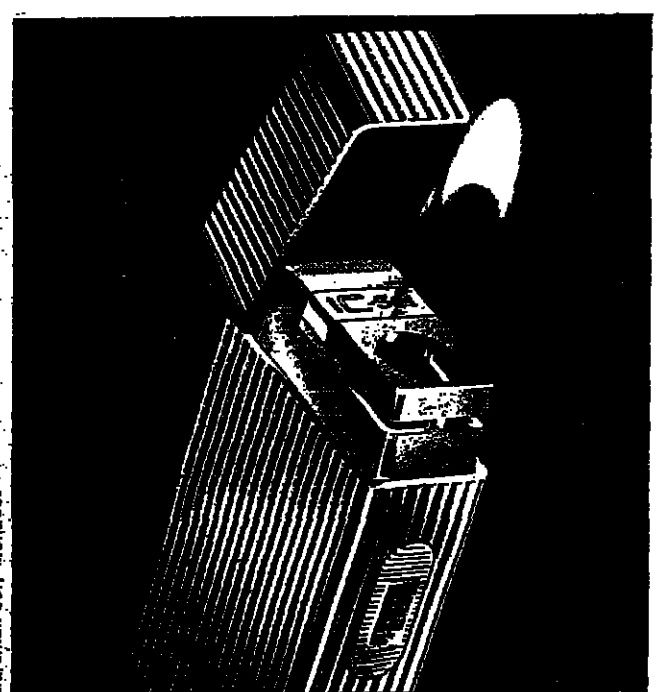


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Backers as Well as Foes Aroused

Criticism of Chile's Junta Mounts

By Jonathan Kandell

TIAGO, Dec. 8 (NYT).—The military government in Chile, which began in the period of the late Salvador Allende and ended under the dictatorship of Augusto Pinochet, has not regained the economic levels of the late and living standards of the 10 million Chileans who lived in the country before the military government took over in Chile. It sought to the role of the state in the economy and introduced late capitalism, which has been here for generations.

Three years after the coup that toppled Mr. Allende, the military junta is still in a state of economic crisis and is being raised even by conservative businessmen who state must intervene to the economy.

By other store seems to be a fire sale, and still customers walk past the

window displays. Well-dressed men commute to work on rickety buses that used to transport only laborers and clerks.

In the shantytowns where one-fourth of Santiago's 3.5 million people live, women and their unemployed husbands elbow into church-sponsored soup lines that were meant for children.

In the Allende years, state ownership was the yardstick for economic activity. The redistribution of wealth through price controls and wage increases, disorderly agrarian reform, worker take-overs of factories, and ambitious social welfare programs without financial backing—was carried out even as the production of wealth fell.

Still No Compromise

Under the military, the ideological pendulum has swung almost 180 degrees and there is still no compromise. A full-scale effort has been under way to reduce the state's economic role as laborer, creditor, employer, producer and protector. The ideologues, at the economic helm insist that no matter what the immediate consequences the economy must be quickly turned over to market forces dominated by

supply and demand, private investment and free competition. But labor leaders, facing huge unemployment and malnutrition among their rank and file, are pleading with the government to resume public investment and decrease wage increases. Farmers, whose grain yields have plummeted, are demanding government subsidies for machinery, fertilizers and pesticides.

An even more dramatic turnabout has occurred in the thinking of many industrialists and businessmen who initially shared the military government's ideological fervor for fiscal conservatism.

Faced with tight credit, low consumer demand, competitive imported goods and a growing number of bankruptcies, the leaders of the business community are asking the government to restore some of the maligned practices of the Allende era, including price controls, public investment and deficit spending, low-interest government loans and protective barriers against foreign products.

Discontent Acknowledged

Ranking government officials acknowledge the depth of discontent, but maintain that there will be no retreat "run the austere economic plan followed since the 1973 coup."

According to Pablo Baraona, the president of the central bank and a leading economic adviser to the government, the fact that "more than 80 per cent of the people are against our policies is proof that the model is working, that it has affected everybody and that it has privileged nobody."

According to Gen. Pinochet and his economic advisers, the worst is over. Inflation has been brought down to 180 per cent from the 700 per cent annual rate registered at the end of the Allende period. For the first time in years, the country showed a surplus in its balance of payments and has succeeded, beyond anybody's expectations, in reducing the net level of its foreign debt, which still is an extremely high \$4.5 billion.

Reality Cited

"It may well be that to many of our countrymen this feat may appear somewhat removed and its benefit not reflected in their daily lives," Gen. Pinochet said on the third anniversary of the coup that brought him to power. "Reality is quite different, however. If the balance of payments had not been successfully controlled, Chile would have been required to face the impossibility of continuing to import the most essential products and this would have led to general rationing and far greater sufferings than we have endured."

According to the government, unemployment now stands at



Augusto Pinochet

about 15 per cent, or 450,000 out of a labor force of about 3 million people. An additional 200,000 are employed in the government's emergency work program, which pays them less than the minimum wage of about \$45 a month.

A church-sponsored study showed that in 1969 a worker making the minimum wage could buy the items on a list of essential foodstuffs with slightly more than half his income, and spend the rest to cover other basic needs. Today, even spending his entire wages a worker can cover only 80 per cent of the items.

Those working-class families who receive the minimum wage must get by with a basically meatless diet. Among the unemployed, however, malnutrition has reached alarming levels.

6 Prisoners Freed

SANTIAGO, Dec. 8 (AP).—The military government released six political prisoners yesterday, sending them into exile because of "their special danger to state security." They left on a commercial jetliner for Europe. The 6 were among 18 persons under detention without charges.

Identifying Heavy Drinkers

Blood Test for Alcoholism to Aid Therapy

By Lawrence K. Altman

NEW YORK, Dec. 8 (NYT).—The first specific blood test to detect chronic alcoholism has been developed by a team of researchers here as an unexpected dividend from their alcohol experiments on baboons. The test offers the potential of more precise and improved therapy for the millions who suffer from alcoholism, a major public health problem, the researchers reported in a scientific journal.

Because the substances measured in the test persist in abnormal amounts after alcohol disappears from the blood, the researchers from the Bronx Veterans Administration Hospital and the Mount Sinai School of Medicine found that the new test could detect alcoholism even after heavy drinkers stopped drinking.

The test involves taking a blood sample from a patient and then calculating the ratio of two amino acids called alpha-amino-butylic acid and leucine in the plasma fraction of the blood. Amino acids are the building blocks of proteins.

Unrelated to Nutrition

For unknown reasons, this plasma fraction was found to be more than twice as high in alcoholics than in nonalcoholics. The studies were done on hospitalized and ambulatory alcoholic patients and healthy nonalcoholic volunteers. The abnormality was unrelated to the patients' nutritional status, because it was found in both well and poorly nourished

alcoholics, the researchers—Dr. Spencer Shaw, Dr. Barry Sammel and Dr. Charles Lieber—reported in the current issue of Science.

The test can be done in any laboratory that has spent up to \$50,000 for an amino-acid analyzer, and the researchers are using the test to evaluate various treatments in industrial and rehabilitation clinics for alcoholism.

Coca-Cola Tells SEC of \$600,000 In Dubious Fees

ATLANTA, Dec. 8 (AP).—The Coca-Cola Co. made about \$600,000 in "questionable foreign payments" from 1971 through last year, a company spokesman confirmed this week.

The firm said that amount included the \$300,000 it had admitted to in October.

The larger amount was revealed in papers filed with the Securities and Exchange Commission Friday. The papers involved a proposed merger between Coca-Cola and the Taylor Wine Co.

There "have been indications that one or more past or present members of the company's executive management passed up knowledge of certain of the questionable payments," it said. The officials were not identified.

The company said it is continuing its investigation of the payments, and that "no assurance can be given that additional questionable payments will not be discovered. The extent to which any member of executive management had knowledge of or participated in making questionable payments can not be determined conclusively until the investigation is completed."

But Dr. Lieber said in an interview that he considered the test experimental and not available for routine use until independent teams of researchers had verified the results according to the custom in scientific research.

Dr. Frank Seixas, the medical director of the National Council on Alcoholism, said in a separate interview that he considered the new test "a brilliant discovery" and "of tremendous significance" in the field of alcoholism research.

Further Questions

The researchers have determined that the test results reflect prolonged rather than short-term intake of alcohol, that the test remains positive more than a week after the long-term drinking period ends and that it tends to become negative as the alcoholic begins abstinence.

Among the questions that Dr. Lieber's team hopes to answer eventually are the following:

- Who is at risk of becoming an alcoholic?
- Can heavy drinkers in the community be identified?
- Having identified heavy drinkers, can those particularly at risk of developing such severe complications as cirrhosis be singled out before damage results?

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Rhodesians Claim Confidence Loyalty of Blacks in Army

By Jack Foisie

ISBURY, Rhodesia, Dec. 8 (AP).—The white-minority government in Rhodesia, claiming that they have no worry about the loyalty of blacks in the armed forces, are planning to increase the number of blacks in the army.

They already comprise about 10 per cent of the regulars in the Rhodesian army, and the government is planning to increase the number of blacks in the army.

How all the blacks have enlisted men. Recently, the Rhodesian government, separate announcements, said would soon commission their black officers.

An insurgent war that seeks a "free" by force is slowly breaking in almost all sectors. Rhodesian forces face guerrilla strikes from the surrounding black countries—Mozambique, Zambia and Botswana. Recent interviews with 31 troops of a field police unit back from the front, they displayed good humor, they were looking for their pay in cash, a unit party and then home to families for 10 days.

By white commander, Hans

Heffman, urged them to be forthcoming in response to questions. But from private to sergeant major, they answered in monosyllables when asked about their feelings on fighting for whites against fellow blacks.

A concise but clear answer came from a corporal. Recently married, he said that what he sought most for himself and his pregnant wife was that there "be no trouble anymore."

"The people we are fighting are causing trouble. I want the trouble to end."

Did he look forward to a black government in Rhodesia?

"Yes," he answered warily. "But only if there is no trouble afterward."

White officers claim they have no fears of anything like "an Indian mutiny" occurring among black troops, referring to the native troops uprising against their British officers in India in the mid-19th century.

A black soldier's pay is better than what he might earn in civilian life. A black private even earns a little more than a white conscript. All Rhodesian whites from age 17 to 25 are required to serve at least 18 months. All black soldiers are volunteers.

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PARIS MOVIES

Yves Montand: Too Nice
To Be a Good Con Man

By Thomas Quinn Curtiss

PARIS, Dec. 8 (IHT).—Yves Montand is not at his best in his new film, "Le Grand Escogriffe" (at the Ambassade, Berlitz and Quartier Latin). He plays a con man who is simply too nice to be successful. His sidekick (Claude Brasseur, a stooge of limited comic resources) goes straight in despair. This lighthearted premise might conceivably provide a mildly amusing rogues' comedy, something on the Damon Runyon order. But "Le Grand Escogriffe," like its predecessor, gets nowhere, lacking the necessary touch of whimsy to rise from the routine.

The ugly subjects of kidnapping and emphysema resist attempts at comic treatment by Michel Audiard, usually an adroit scenarist, who had the thankless task of turning a novel known as "Escogriffe" into a screenplay. Valentina Cornejo is fleetingly seen as a flirtatious widow while Agostina Belli, the heroine of the hilarious "Carrière d'une Femme de Chambre," is ornamental. But the versatile Montand requires—as Chevalier did—a Lubitsch or a Mamoulian to reproduce his stage self before the cameras.

Jacques-Yves Cousteau is a documentary filmmaker, unequal in his field since the death of Robert Flaherty. With his "Monde du Silence," a work of extraordinary beauty and fascination revealing the secrets of the Red Sea, he took his place among the foremost French directors and followed his initial full-length feature with another underwater exploration, "Le Monde Sans Soleil."

Since then he and his crew have been on an Antarctic expedition aboard his ship, the Calypso, and have returned with a third film of inestimable value. His title is "Le Voyage en Bout du Monde" and it is at the Etoile, Rex, Odéon, Miramar and Cluny-Ecoles. A stimulating vacation from the porn, semi-porn and gangster violence products, it is recommended to all.

In the film, the viewer glides amid towering, threatening icebergs and weathers lashing blizzards. There is both excitement and variety to this instructive journey, and Cousteau is a charming as well as an informative host. He has remarkable modesty and humor in discussing his work and his respect and affection for all creatures—he even insists that the octopus has been maligned by romantic novelists—is most winning. He introduces the audience to friendly walrus, playful seals and prancing penguins, the white-breasted black birds "flying" beneath the freezing waters to discover what the explorers in bathyspheres are investigating. Here is a thrilling cinematic trip to the Antarctic.

In "La Première Fois" (at the Biarritz, the Marignan and the Cligny-Panthé), Claude Berri—as his title suggests—depicts an adolescent boy's introduction to sex. Berri's boy doesn't know what every young boy should know. His schoolmates are scarcely better informed, though they offer much unsolicited advice. What to do? One girl will not go beyond the exchange of kisses. Another, a



Yves Montand, Claude Brasseur in "Le Grand Escogriffe."

seemingly acquiescent companion, refuses at the last moment, alarmed by his inexperience. Thwarted, he seeks professional counsel and a prostitute initiates him into the mysteries of sex.

There are a few lumpy passages, some vulgar strokes and hesitant progress to Berri's new comedy. Alain Cohen, who made his debut as a child actor some years ago in "Le Vieil Homme et l'Enfant," is now in early manhood and portrays the teen-aged Parisian.

At first "Mr. St. Ives" (at the Elysées Cinéma and at Cluny-Ecoles in English) gives you the impression that the plot of Raymond Chandler is peeking over the shoulder of its author, then the impression is that its author is peeking over the shoulder of Chandler's ghost.

Once more we have the tough, fearless Los Angeles private eye who lives content in bachelor squalor and is indifferent to wealth, the danger of his missions being sufficient reward. Once more he is summoned to a stately mansion inhabited by an eerie old millionaire and an enigmatic beauty. Once more he agrees to risk his skin. Once more he escapes brutal attacks and bullets and solves the mysteries. Everything is there except the Chandler: Nilip.

Charles Bronson is the bold investigator, Jacqueline Bisset is the sleek lady Maximilian Schell is a mad psychiatrist and John Houseman is the eccentric Midas who looks at old movies for relaxation between nefarious international deals.

AROUND THE EUROPEAN GALLERIES

Rome

Cy Twombly, Sperone, 21 Via Quattro Fontane, Rome, until Dec. 18.

Twombly is at his height. These "paintings," all done last summer, are pale, understated wild picture sequences.

"Leda and the Swan" is the essence of a swan rearing in three versions. "Narcissus" is the word, half wiped away, on the first sheet, a blue cloud of soaring marks on the second, yellowing splashes on the third, a scribbled-over flower print on the fourth. "Thyrsis's Lament for Daphnis" is the poem scrawled in thorny high letters in the middle, flanked by two sheets covered with swoops of thick black.

The show is like an archaic frieze. Scratched sentences from Theocritus's bucolic poems, from Spenser's "Garden of Adonis" are

used as armature, figuratively and symbolically. But whether a work is about ancient shepherds or modern longing, lush or spare, home or elegant, violent or sweet, the sting of these lyrical images is in the dawning balance of opposing qualities.

Twombly's signs and portents, "cream colored streams" as the poet Frank O'Hara once described them (in Art News), used to be deployed over canvas in small aggregations in intriguing changes of perspective. More recently, he painted slate-gray surfaces covered with rows of marks.

It has been said his work has a kinship with action painting and with Tappies. But this American is a loner. He came to Rome more than 20 years ago. Because he fused American immediacy with European sophistication he was first appreciated here. He has been a great influence on

painters in Italy, and still is. This show is of a grand simplicity and moving: it is his best.

Robert Mangold, D'Alessandro-Ferranti, 26 Via Tor Millina, Rome, until Dec. 18.

Portions of geometric elements are drawn over canvases which are in other geometric shapes. The form of the canvas cuts into the drawing, the drawing into the canvas. Mangold, a New Yorker, poses problems he does not have to solve. Though his approach is conceptual, his canvases have the effect of decoration.

—EDITH SCHLOSS.

Paris

Alexander Calder, Galerie Maeght, 13 Rue de Téhéran, Paris 8, through December.

This exhibition includes 48

pieces, all but three made this year, all of them in the best Calder vein. The big room of the gallery is pure white and strongly lit, and in it Calder's toys—red, blue and yellow, white and black—hang from walls and ceiling or stand on the floor so that the whole space of the gallery seems filled with their leisurely movement and festive color. They all look familiar and now and then one gets the impression of having seen this piece before—a mistaken impression, Francis Bacon's back to his earlier subjects, not like Célanne to his apples perhaps, but freely and with a freshness of spirit that makes repetition acceptable.

Victor Koubak, Galerie Etienne de Causans, 23 Rue de Seine, Paris 6, to Jan. 17.

This show is Koubak's first in Paris and includes a good number of drawings in the vein of those Koubak seen in the "Contemporary Russian Art" show at the Palais des Congrès. The artist left the Soviet Union last year. Characteristic of his work is the frontal view of people, as in some icons and medieval portraits. But each has something sober and strange. Some are masked under a woolen hood, others have idiosyncrasies

to distinguish them. woman looks a pacifier, has a nut screw on her nose. But Koubak is gentle and his people stand disarmed by viewer.

Alexander, Galerie Vias, Rue de Seine, Paris 6, to Jan. 17. Alexander works with wood which he assembles they look like facsimiles of African objects: dolls, stiles and fetishes. The 6 and nostalgic rustic tone, a reflected warmth—often very elegant but found its own vitality.

César, Galerie Braubourg, du Renard, Paris 4, to Jan. 17. César, as a sculptor, is notorious by a variety of some imaginative sculpture the use he made of the by press. Thus he displays pressed automobiles reduce fairly compact tube of metal. The present show is "compressions" to be hung the wall—tarpaulins, crates board boxes, etc., reduced shape of a large and subtle painting.

—MICHAEL GIB

DINING: A German Gamble That Paid Off

By Naomi Barry

PARIS (IHT).—"It takes guts to open a German restaurant in Paris," said Rolf Nefer, director of Au Vieux Berlin, 10 years after he attempted the impossible.

The first year was a bust. The next two years, he got along on *choucroute*. It is one of the best in town: A bed of crunchy sauerkraut and creamy mashed potatoes heaped with delicatessen: smoked pork chop, frankfurter, Nuremberg sausage, cervelat, slab of smoked fatback. But German cuisine is not only *choucroute*. "It is just one specialty," Mr. Nefer said. "I am glad to tell you that it is now down to 30 per cent."

Mr. Nefer came to Paris to represent German agricultural products. The French regarded the country across the Rhine as the Great Gastronomic Desert. To force himself on local consciousness, he established the restaurant Au Vieux Berlin and its two snack bars as a high-class showcase. These days there is hardly a German client. On the side, Mr. Nefer put in a small shop to sell products such as bread, cookies, meat products, cheese, canned goods.

"The first year we did 300,000 francs worth of business in the shop. Last year we did 2 million francs. All in 28 square meters. It is crazy. I have to keep it open until 11 p.m., the customer demand is so great."

Lunch the other day began with a shrimp salad Zellermeier. The

latter was the Maxim's of Berlin during the twenties and thirties. The delicate shrimp, hardly bigger than a comma, are shipped in from Hamburg several times a week. The salad was prepared at tableside: shredded lettuce, the shrimp, hard-boiled eggs, Minosa, and a dollop of sauce—mayonnaise with a dash of ketchup, a hint of horseradish, a suggestion of orange juice, and a few drops of Weinbrand in white alcohol made from grapes. The tiny shrimp are so good that lemon juice would have been enough. However, the sauce is kept to a minimum and the flavor comes through unmasked.

The traditional way of serving matjes herring is under a blanket of heavy sweet cream. Vieux Berlin offers an interesting 50/50 combination—half heavy cream, half yogurt—with the usual slivers of pickle and apple. The restaurant has developed a brochette of matjes herring which has had great success with the French, but it is too far from the original product for a real matjes fanatic.

The frankfurter was a find of the city of Frankfurt and, since 1929, the skinnier, smoked, 100-per cent pork sausage has been granted the official appellation of *Echte Frankfurter*, which designates the real stuff. A pair are accompanied by potato salad, or by a mound of grated horseradish which is even better. Good horseradish should make you weep a little. Horseradish, toned down with

heavy cream, comes with the smoked trout from the Black Forest.

Braised beef with bone marrow and spätzle, German style nibbles of pasta, is a homey dish. Equally hearty, but more unusual, is a fillet of pork cooked in beer and nuttily flavored with cumin. The garnishes are a fat baked apple, cored and peeled, the center filled with *airelles*—a European approximation of the Cape Cod cranberry—and a crisp little potato pancake.

Mr. Nefer has concentrated on those German dishes and wines which give the French the impression they have not gone too far abroad.

The apple strudel—apples, raisins, nuts, butter, sugar and cinnamon—baked within paper-thin crusts of pastry glazed under the grill is of a mouthwatering quality found only in central Europe.

At lunchtime, the restaurant is filled with businessmen. At night, candles flicker on the tables and a pianist plays nostalgic airs. The service is distinguished by its amiability. The snack bars offer a streamlined menu of the same food.

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(Au Vieux Berlin, 32 Avenue George V, Paris 8. A second entrance at 45 Rue Pierre Charon, Paris 8. Telephone: 225.88.96. Closed Sundays. Average price: 80 to 100 francs. Snack bar: 40 to 60 francs.)

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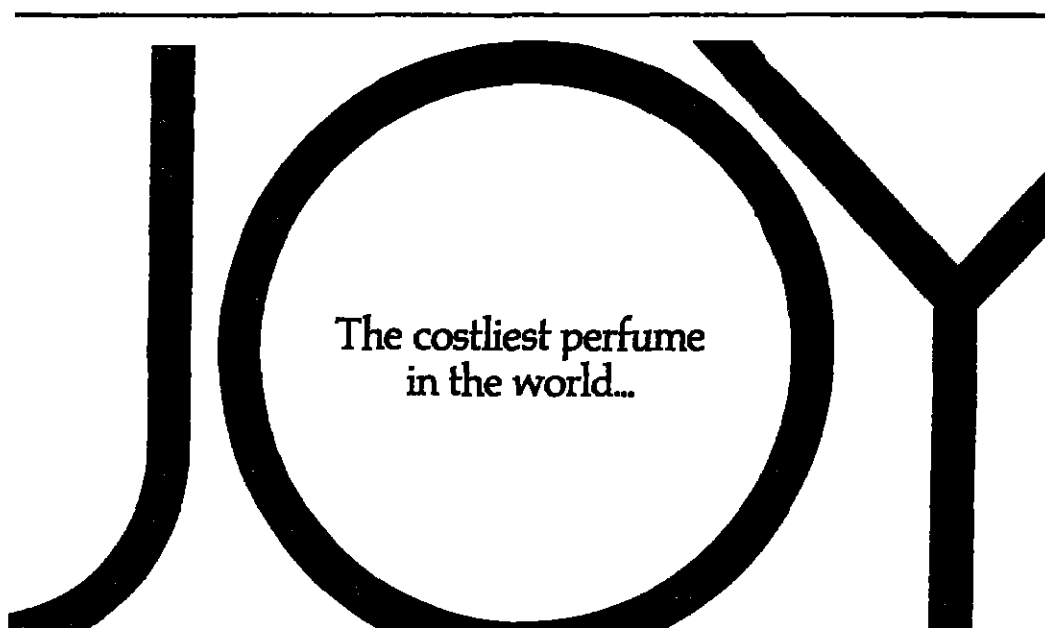
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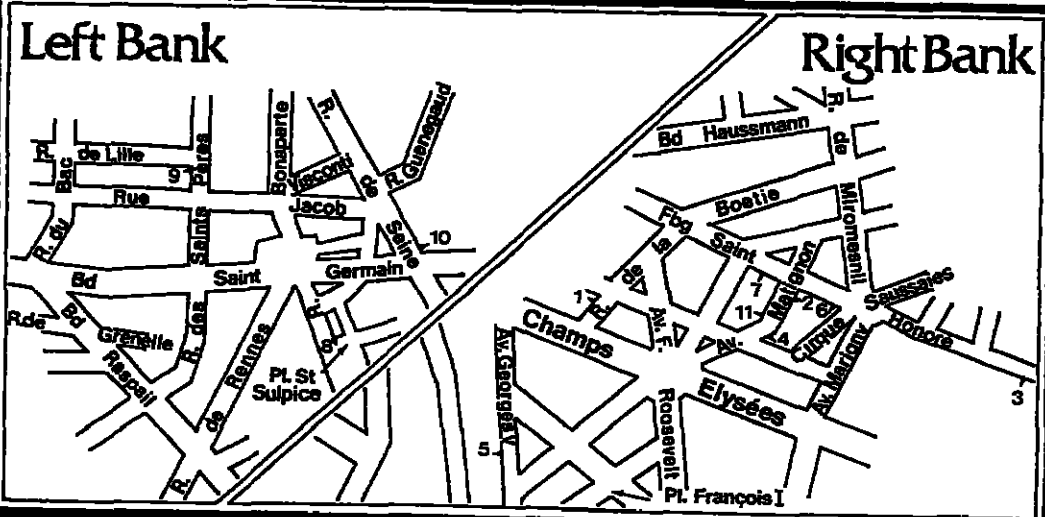
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INTERNATIONAL Herald Tribune

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PARIS, THURSDAY, DECEMBER 9, 1976.

FOCUS ON ENERGY

THIS survey of world energy seeks to pinpoint its significance not only within the context of energy itself but its impact on the political and economic development of nations, on producers as well as consumers.

In separate but often interlocking articles, the survey analyzes the changes in the world's energy picture—indeed, in its economic and political balance—since the Middle East war in October 1973. It investigates the role of agencies such as the International Energy Agency, the European Commission, the Organization of Economic Cooperation and Development, the Organization of Petroleum Exporting Countries, the International Atomic Energy Agency and many others operating on a national or international basis.

THIS problems of funding oil and gas exploration and development, nuclear energy and alternative sources are explored in detail; so is the issue of "recycling" of surplus oil revenues, a direct consequence of the Middle East war and the escalation of energy prices and costs.

There are reviews of energy sources, reserves (both proven

and potential), their approximate duration, the consequences of depletion rates, their impact on the financing and economics of energy on a world as well as national scale. For this is an increasingly interdependent world: the problems of one set of countries such as the industrialized West are reflected in the reaction of another set of countries, such as the oil producers, just as the aspirations of the latter can deepen the problems of the West.

THE unequal distribution of energy reserves throughout the world coupled with the equally lopsided pattern of consumption have created further problems which are now as much a part of political and economic confrontations as of attempts at cooperation between nations and groups of nations. It also influences the pace of search for new and more effective forms of conservation and alternative sources of energy such as oil shale, tar sands, wind, tides, waves, solar and geothermal forces as do considerations of accessibility, cost, supply and demand and the nature of international relations at any one time.

Nuclear energy, the largest and most immediate prospect for bridging the looming energy gap (predicted for well before

the end of this century) is itself the subject of controversy in advanced industrial countries and in their poorer, less developed parts of the world. Opposition comes not from the "doomwatchers" but from those who fear nuclear and "nuclear terrorism."

THERE are of course questions which are still unanswered in this survey. There are projections which may be revised as more information is being written; others were still not available. The survey can be tentative, indicating broad directions and trends, but not certain solutions or targets. In this complicated field as energy, it is inevitable that some errors are in conflict with others.

One hopes nevertheless that the survey will help to those who wish to understand the complexity of the energy question, the vast diversity of nations and of view, indeed of illusions. For it is the understanding of the facts and distortions of view and the attitudes in international behavior which may threaten world peace.

OPEC

Saudis Are Key To Oil Producers' Front

By Alan Parker

EDON (ET)—In its first ten years of existence no impact on the public consciousness was made by the Organization of Petroleum Exporting Countries. Founded by Saudi Arabia, Venezuela, Iran, Iraq, Kuwait in 1960, largely at instigation of the first two of OPEC at first was no more than a protest against the moves of Saudi and others to reduce oil prices for oil, and hence barrel oil revenues for the member countries, then based on fixed prices.

No protest, succeeded. No cuts in the posted prices were attempted, even though oil prices during 1973-74 rose well below posted prices. In practice, therefore, OPEC members were receiving considerably more than the 50 per cent of the value of the oil that concession arrangements were supposed to give them. By negotiating with the major oil producers in the oil-price arrangements OPEC still further from the 50 per cent. Nevertheless, after ten years of this supposed cartel, despite

the entry of new members, had done nothing to transform the allegedly unfair and inequitable terms of oil concessions then prevalent, and nothing to redress wrongs allegedly done to its members in the past. Nor had it had any glimmer of success in its periodic floundering toward a policy on regulating the output of individual members. Too many powerful members wanted to stay free to produce as much as they liked.

Major Revisions

The pattern changed in 1970. Libya and the Gulf producers negotiated major revisions in concession terms in their favor, a change that made its mark on oil price levels in Europe. But all OPEC had done was to provide the producers concerned with a clubhouse in which they had discussed their common problems for ten years, a modest secretariat, and a spirit of cohesion.

Even in October and December 1973, it was not OPEC that put up prices. It was the six Gulf producers. It was not until (Continued on Page 12, Col. 1)

IEA

19-Nation Consumers Rally to Challenge

By Michael Parrott

RIS (ET)—When the Arabs imposed their oil embargo in the autumn of 1973, the industrialized countries caught completely off their guard. While the oil producers were able to operate in unison through the Organization of Petroleum Exporting Countries (OPEC), the first reaction of the consumer nations was very much "man for himself." European countries were only too ready to obtain exemptions from the embargo to both about Holland and the United States, both of which were subjected to the full of the embargo. But when the Middle East situation had been largely ignored by the United States, the unity of the Community, even of the Western world as a whole, was suddenly tested.

was in this atmosphere of acrimony that U.S. Secretary of State Henry Kissinger invited representatives of

the major consumer countries to a meeting in Washington in February 1974. It was there that agreement was reached to set up a consumer alliance—the International Energy Agency (IEA). Nine months later, in the conspicuous absence of France, the 19-member organization was formally set up in the Organization for Economic Cooperation and Development (OECD) buildings in Paris. The executive director was 49-year-old Ulf Lenzke, former director of the energy department of the West German Ministry of Economic Affairs.

The official aims of the agency were to secure oil supplies on reasonable and equitable terms, to introduce an effective oil allocation scheme in the event of an emergency supply shortage, to establish a dialogue with oil-producing countries and non-member consumer nations, including developing ones, to set up a comprehensive information system on the international oil market, to (Continued on Page 12, Col. 2)

EEC

The Energy Crisis Seems To Provoke Nationalism

By David Haworth

SSELS (ET)—It's an odd fact that there is no mention of a common energy policy in the treaties on which the European Community is founded. Indeed, the EEC has been moving towards such a policy since 1962, proposing at that time a three-phase development: Common Market open to member countries and back to a system of aid to common energy production. But on this was hesitantly, to say the least. It was not until the crisis at the end of 1973 that the EEC was shocked into action. The crucial importance of energy factors will play in community's future.

It would be nice to report that this three years ago (which if course, continues in a different form) obliged the EEC's member nations to give attention to attempts to their long-term energy needs. Unfortunately, this is not really the case. The crisis seems to provoke nationalist feelings of rivalry in this area. For the European Commission, which is the energy problem well the oil crisis actually

broke, the crisis clearly shows the need for the Nine to create and apply a common energy policy both internally and externally. Its call was to some extent heeded, at least during the first months following October 1973. However, from the word go, its implementation ran into the obstacles created by the major divergences of interest between the Nine. At the same time, the trend of international developments resulted in a loss of interest by Community member countries in the creation of a common energy policy. Eight of them are members of the International Energy Agency, and appear to believe that energy problems can better be solved at this level (the world's 13 richest countries, minus France) rather than in the EEC framework.

Imported Oil

There can be no escaping the fact that imported oil has become the very foundation of Europe's prosperity for the foreseeable future. For the next 15 to 20 years, it can be expected that Europe's dependence on this oil (Continued on Page 12, Col. 2)

Economy: Dwindling Reserves, Little Progress on New Sources

By Andrew Hargrave

LONDON (ET)—Even before the Middle East crisis in the autumn of 1973, voices had warned about the depletion of the world's energy resources and the urgency of stepping up exploration, development, research, conservation and cooperation between producers and consumers. The Middle East war, followed by a temporary embargo on certain countries and by the quadrupling of crude oil prices, succeeded for a while in concentrating the minds of Western nations on these vital issues. The International Energy Agency, set up at the instigation of the United States, prepared plans for anticipating such crises and for joint action in the case of another emergency. The European Community, all but France also members of the IEA, took the initiative along similar lines. Ideas abounded on how to "recycle" the producers' vastly swollen oil revenues.

Since then, however, interest in these laudable aims and objectives seems to have flagged. It has been revived somewhat in the last few weeks, because of Western anxiety over oil-price increases expected to be announced by the Organization of Petroleum Exporting Countries (OPEC) at their meeting later this month. But there is still no sign of any urgency in the search for new and alternative energy sources except perhaps in the North Sea, where tapping this important new oil and gas resource is chiefly seen as a means of alleviating the United Kingdom's economic plight.

One reason for this lukewarm approach may have been the economic recession which overtook the West in 1974-75, partly as a result of the escalating energy costs. The partial revival this year has been clouded by doubts over its duration, reflected in the recent forecast by the Organization for Economic Cooperation and Development (OECD), which comprises all advanced Western nations, of another recession possibly within the next 12 months. The International Monetary Fund (IMF) has been equally pessimistic.

Growth

There is, of course, a close relationship between energy consumption, economic growth (as expressed in GDP, the gross domestic product) and standards of living.

Between 1963 and 1973, a period of overall economic growth, world consumption of primary energy rose by over 80 per cent, from some 2.5 billion tons of oil equivalent to 6.1 billion tons. In the OECD countries, which in 1963 comprised almost two-thirds of the world's total energy consumption, consumption rose by two-thirds, from 2.1 billion tons

to 3.4 billion tons. Growth was faster in the Communist countries, in which consumption nearly doubled and fastest of all in the developing countries, includ-

ing OPEC, where it more than doubled. During that period oil and gas met more than 80 per cent of the increase in energy demand, oil

alone more than half. That increase was reversed in 1974-75, but so was the rise in GDP. Decline was more pronounced in the OECD countries which are

having to import more than one-third of their energy requirements. (The proportion of imports is much higher in Western Europe—it is around 80 per cent

resources of natural gas and oil; Britain's reaction in 1981 to the Iranian attempt to nationalize the Abadan oilfields and refinery had strategic as well as economic undertones, and set the pattern for similar clashes of interest since.

Nuclear energy has its origins in the most destructive human weapon so far invented and the opposition to it has been motivated by a very considerable extent by memories of Hiroshima and Nagasaki.

Clashes

It is against this background that the price and participation clashes of recent years, the hitches in nuclear power station programs, the uneasy and sometimes malfunctioning alliances and groupings of producing and

consuming nations must be viewed. A classical example is the Middle East crisis in the autumn of 1973 and its aftermath which is still very much with us. For the oil price rises that followed not only affected the prices of other sources of energy and consequently the balance of payments in favor of the producers, but also the domestic economies of the latter. This has in turn led in its cumulative effect to a major disturbance in the complex and highly integrated and interdependent economy of the industrialized West.

Disturbance has turned into a recession, the most serious and widespread since the last war. That is why the price increases the Organization of Oil Exporting Countries (OPEC) will be contemplating at its next

meeting in Qatar later this month are already being challenged by leading Western countries, including the United States, Germany and the United Kingdom. They are challenged not only because the increases put an extra charge on energy but because of their overall effect on the tenuous and flimsy economic recovery in the West and because of the further boost to the shift of the balance of economic power towards the producers.

The International Energy Agency, backed by 19 Western countries (all the major energy importers except France), was set up in November 1974 primarily as a consumer cooperative to present a united front to the 13-member OPEC. Its proposals for a series of countermeasures to stockpile oil, gas and coal, to search for new energy resources and to conserve existing ones has

been paralleled by similar objectives put forward by the European Commission of the nine-member EEC. "Project Independence," launched by ex-President Richard Nixon in the wake of the Middle East war would have it as its aim to make the country altogether independent from outside energy sources.

Politics

Just how far these plans, targets, objectives have succeeded is analyzed in other articles in this survey. The main reason for any lack of success has, however, been political: an absence of urgency and will to cooperate by the Western nations, rather than any concerted attack by OPEC. The memory of the traumatic quadrupling of oil prices, let alone the temporary embargoes imposed on the United

States and on the other hand, some of the oil-producing nations, over half the world's oil production, made the task of the IEA, direct and indirect, in the energy field, almost impossible.

Another reason for the lack of urgency in the search for new and alternative sources of energy and conservation of energy and conservation of energy is the relative stability of oil prices in 1974. The price increase in 1974 was only 10 to 20 per cent, and much more than that in 1973 because of the threat to the economic revival and the supply of another recession.

A third reason for the lack of urgency in the search for new and alternative sources of energy and conservation of energy is the absence of common standards for the consumption of energy by the producers and consumers, amongst themselves and with others as prices and production.

The clear policy of the IEA and the European Commission are still to be translated into action by the member nations. The situation has not changed fundamentally since the autumn of 1973 when the world was in the greatest state of economic crisis and the greatest economic growth in civilized life may be supplied within a generation.

Reserves

Between mankind and the threatened shortage of energy sources which are the world's energy supplies, there are oil, gas, coal, uranium, solar, wind, tides, waves, solar and geothermal energy, and lesser extent, nuclear.

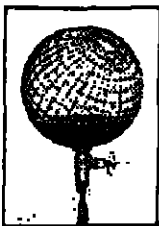
There are also alternative sources of energy discussed later. However, the medium-term (10 to 20 years) interest must focus on the main ones.

The first of these are the oil reserves, and these are the ones on which the world's energy supply is based. The Department of Energy in the United States estimates that the world's oil reserves are 1,000 billion barrels, or 100 billion tons.

The table illustrates the character of the world's energy reserves, even when the recovery rate of oil is taken into account. It shows that the relatively small amount of oil reserves is the most important factor in the dependence of the world's consumption of energy on the economic growth of the world.

(Continued on Page 12, Col. 2)

الأمم المتحدة



The Saudis Are the Key to Oil Producers' Solidarity

(Continued from Page 11)
March, 1974, that OPEC ministers sat down to review prices for the first time with the power to set them unilaterally.

Nevertheless, the size, unexpectedness and timing of the December, 1973, increases, coming as they did in the midst of the shortages caused by the Arab cutback and embargo, detonated an explosion of resentment in consuming countries, above all in that erstwhile self-sufficient oil consumer, the United States. This most effective of cartels was charging an excessive price for an essential commodity, thus causing economic and political disruption in the West because of the inflationary and balance-of-payments consequences, plunging the world into recession, and derailing the economies of the developing countries. Fortunately, however, the cartel would stimulate a colossal glut of energy, thus bringing oil prices crashing down.

A Different View

However, as time has passed a different view of the real nature of OPEC power has emerged. In 1974 the world economy sank into the severe recession that had been forecast before the oil price jumps. Demand for oil fell. But this drop was only slightly greater than the recession might have been expected to cause on its own. Inevitably most of the drop in oil demand fell on OPEC. But, despite falls in total OPEC production, far from collapsing, effective oil prices actually rose further: with the changeover to state participation and nationalization, and the rationalization of the price formula on the Gulf at the end of 1974; and at the Vienna OPEC meeting in September 1975—at virtually the bottom of the depression—they were hoisted another 10 per cent.

All this would have made perfect sense if OPEC were a genuine cartel, regulating the rate of output of its members. But OPEC has no power to do this. Yet the drop in demand for OPEC crude in 1974-75 caused no strain on OPEC and did not prevent it from increasing prices further. True, there was some price-cutting by Libya and Iraq in 1975 and there were several price changes by Nigeria among others. Yet these did not precipitate a spiral of

price-cutting. Clearly some other factor is underpinning the whole system. That factor, it is now clear, is Saudi Arabia.

Saudi Arabia

Saudi Arabia is now the residual supplier of the world oil market. Its output goes up and down to balance up world supply and demand. As was clear in 1975, when demand falls beyond a certain point, Saudi Arabia starts shaving their prices.

But what prevents the whole thing from collapsing in a spiral of competitive price-cutting is the fact that behind it all lies Saudi Arabia. Saudi Arabia will not cut the price of its main crude, Arab Light, because this is OPEC's market price. And Saudi Arabia can absorb a drop in oil production from its normal seven to nine million barrels per day (bpd) to three and a half million bpd, without dipping into accumulated surpluses to meet its needs.

There is no danger of OPEC collapsing in a spiral of price-cutting so long as its members know that Saudi Arabia will not join in. On the other hand, if it chooses, Saudi Arabia can produce up to 11 to 12 million bpd. By flooding the market, Saudi Arabia could wreck any price level set by OPEC that it does not approve of. It has held this threat over OPEC at each of the last two price-fixing meetings, at Vienna in September 1975 and in Bali in May of this year.

In other words Saudi Arabia has the power to dictate the price. As the international oil consultants Walter J. Levy S.A. of London recently commented, "...as the world's marginal supplier of oil, and of energy, Saudi Arabia has now explicitly assumed the role of the determiner or arbitrator of the prices of world oil and energy."

Similarly, Robert Mabro of St. Anthony's College, Oxford, has concluded, "...Saudi Arabia is the linchpin of OPEC. One could almost say without too much exaggeration that OPEC is Saudi Arabia."

This is the emerging consensus among expert observers. Mr. Mabro, for instance, points out further that this set-up implies that Saudi Arabia does not have control over how much oil it pro-

duces. And Walter J. Levy S.A. has pointed out that Saudi Arabia cannot control both price and its output level: in 1977 (temporarily) and in the 1980s Saudi Arabia might have to choose between lifting its present production ceiling of effectively 8.8 million bpd and losing control over the oil price—if and when demand for oil exhausts the available capacity of other producers but requires more than 8.8 mil-

lion bpd from Saudi Arabia in addition.

Sooner or later Saudi Arabia may start setting the price with the deliberate aim of regulating world demand for oil so that the volume of oil needed from it is in line with what it wants to produce. But this point is some way off.

At present, although Saudi Arabia has an undisputed power of veto, OPEC price-fixing

is still a compromise between those seeking higher prices because they have large revenue needs and/or small remaining oil reserves and/or are politically very anti-West, and the moderates led by Saudi Arabia, who are more anxious to avoid political provocation to the West, or to the poor countries, and who (in the past) have been keen to avoid prejudicing the long-term role of oil by over-pricing it now

in relation to other energy sources like nuclear power.

Inner Circle

It is also clear that within OPEC most weight is still carried by the inner circle of original founding members, especially Iran, plus perhaps Algeria. But, as the last two years have shown, non-members of OPEC, and notably the United States, have some hidden influence too—

through the political pressure they are able to exert on Saudi Arabia.

Nevertheless, despite their quarrels, OPEC members have demonstrated a stronger sense of solidarity than had been realized by many in the West. Its members all share a genuine resentment at the exploitation they believe themselves to have suffered from in the past. They believe that it was only by stand-

ing together that they secured the enormous gains now have made.

But for the moment, solidarity is not OPEC's ingredient. The essential ingredient, most experts now agree, is Saudi Arabia. With Saudi Arabia can produce three and a half million bpd and 11 and a half million bpd, this range will be of any likely fluctuation in world oil demand and in the next ten years or so that Saudi Arabia will be able to dictate the price. Saudi Arabia looks to remain the world's supplier of low-cost oil for as long as the world oil market lasts.

Radical Change

But why is it only a marginal producer is able to dictate the price? OPEC made little or no attempt to raise the price in the early 1970s. The answer here seems to be that the early 1970s, up to now, had been above all in the Middle East. All OPEC members had to produce more. They feared their combined growth, the weaker because price levels needed to a oil. This overhang was in the early 1970s even America entered the world as an oil importer, so ailing state.

Now, world oil reserves still increasing but not as the growth of oil consumption. Estimates of how oil may ultimately be used suggest that the rate of production will begin to fall towards the end of the 1980s so that very large quantities of alternative fuel sources, needed by them.

Given the problems now faced in stripping up pits of coal and nuclear energy, present oil prices, the oil price looks likely to rise in real terms over 15 years. For Saudi Arabia's marginal supplier, cannot absorb anything! present level of oil revenue attraction of keeping the ground is only too And that, probably, is why now works.

IEA—Consumer Nations Rally to Face Challenges

(Continued from Page 11)

develop a permanent framework for consultations with oil companies and to reduce dependence on imported oil through long-term cooperative efforts on conservation of energy, on accelerated development of alternative energy sources, on research and development in the energy field and on uranium enrichment.

Saber Rattling

It was perhaps inevitable that the creation of a consumer grouping so soon after the Middle East embargo should have been seen as an offensive move against OPEC. This impression was reinforced by France's refusal to have anything to do with the organization and the saber rattling of some U.S. politicians. William Simon of the U.S. Treasury Department argued that the new oil prices were too high. Thomas Bowers of the State Department talked of the need to break OPEC; even Henry Kissinger warned of possible military intervention if vital U.S. supplies should be threatened.

Of course, the basic aim of the International Energy Agency is to change the supply/demand balance in such a way that consumer countries can once again obtain secure and reasonably priced oil. In this sense it is trying to weaken the position of the producers who can now virtually charge what they like because of the shortage of alternative energy supplies. But even the OPEC countries welcome the attempts of consumer countries to develop other energy sources and reduce their oil consumption. For it is only by re-

ducing demand for their oil production that they can be assured of a longer life span for their reserves and only by encouraging consumers to develop their own energy sources that oil prices will remain high.

Indeed the most remarkable aspect of the IEA today is not so much the attempt to restore the buyers' market of the 1960s, but the recognition of the OPEC argument that the world's oil reserves are too valuable to be squandered through low oil prices. For IEA Executive Director Ulf Lantke, the present price of oil is not just the work of a cartel, but the consequence of a shift in the supply/demand balance. The answer is not to break OPEC but to create a new market balance where those cartel powers will no longer operate. Ironically the only way in which this new market balance will be achieved is through higher prices. For it is only when oil becomes more costly that the consumer countries will be forced to reduce their consumption and investments in alternative energy sources become worthwhile. "The only real chance of oil prices falling again is if there is a serious economic crisis," says Mr. Lantke.

Progress

That does not, of course, mean that the IEA actually favors higher prices. There are times when agency officials wonder whether another sharp price increase is not needed to shake consumers out of their complacency, but for the moment the agency is seeking to shift the oil, but governments will assume the responsibility for its allocation.

For until this is done—and it has yet to be done in the United States, Canada and Australia—even the existing possibilities in the conservation and development fields will not have been fully utilized.

After two years of operation, what has been the success of the agency? Its most obvious achievement has been its ability to bring together energy experts from member governments on a regular basis. In this way consumer countries have been able to compare notes and work out their individual programs. Great progress has also been made in collecting market information in such a way that governments can know what is happening without companies losing any competitive advantage. In the event of an emergency supply shortage, figures on all oil traffic in one month will have been assembled within the first fortnight of the month that follows.

Of key importance is the emergency self-sufficiency demand restraint and allocation system which is designed to keep consumer countries supplied with oil for at least 200 days. After the Suez crisis in 1956, the Organization for European Economic Cooperation (OEEC) set up a special oil committee to handle future oil emergencies, but with neither the United States nor Japan as members and unanimity required before any action, it was left to the oil companies to share out supplies in the 1973 crisis.

Under the new system companies will continue to shift the oil, but governments will assume the responsibility for its allocation.

Members will cut back their consumption by seven and ten per cent respectively, if overall supply falls by more than seven or 12 per cent. After some adjustment has been made for hoarding countries to draw on stocks, remaining requirements are met on a pro rata basis according to whatever supplies are available, be they indigenous or imported.

The agency has played a quiet background role briefing consumer nations in the energy working group of the Conference on International Economic Cooperation (CIEC), but has so far had no direct contacts with OPEC. It has made a symbolic gesture toward protecting investments in indigenous oil by setting a minimum safeguard price for oil sold within the IEA and it has also encouraged a number of research and development projects.

Agreements have already been signed in fields of coal and nuclear power. A joint funded bed combustion rig is being built in Britain, new data services are being developed on the coal trade, research is being undertaken into nuclear reactor safety and the resistance of materials to the fusion process. Working groups are examining projects in new energy sources such as geothermal (Italy), wind (Holland), wave (Britain), solar (Japan) and biomass (Ireland).

But if the agency has acquired a reputation of being more dynamic and down-to-earth than most international bodies, it has not escaped some of their handicaps. Energy has now become such a sensitive political issue that it is not always easy to

obtain cooperation from member governments. All too often politicians make high-minded declarations on energy development and conservation only to surrender to short-term political pressures. It is significant that in its recent report on "Energy Conservation" the IEA openly expressed doubts as to the will of member governments to push through with their conservation program and that member governments have now agreed to prepare lists of measures to which they would definitely commit themselves. Perhaps the most disturbing aspect of all is that the country which was mainly instrumental in setting up the agency has so far done so little to help it attain its supply/demand objectives.

With the prospect of OECD oil imports rising to at least 35 million barrels in 1983 compared to only 28 million in 1973, it is already clear that the agency still has a long way to go.

At the moment, consumer countries are heading for another supply shortage in the 1980s with the risk of yet another sharp increase in prices. This situation could still be avoided if consumer countries heed the warnings of the IEA secretariat and introduce a series of measures aimed at increasing energy supplies by 6 million barrels and cutting demand by 5 million, thereby bringing import demand to 24 million, well below OPEC's likely production capacity. Now that the President and Congress in the United States are of the same party, the United States may at last be able to give the IEA the example and performance it so badly needs.

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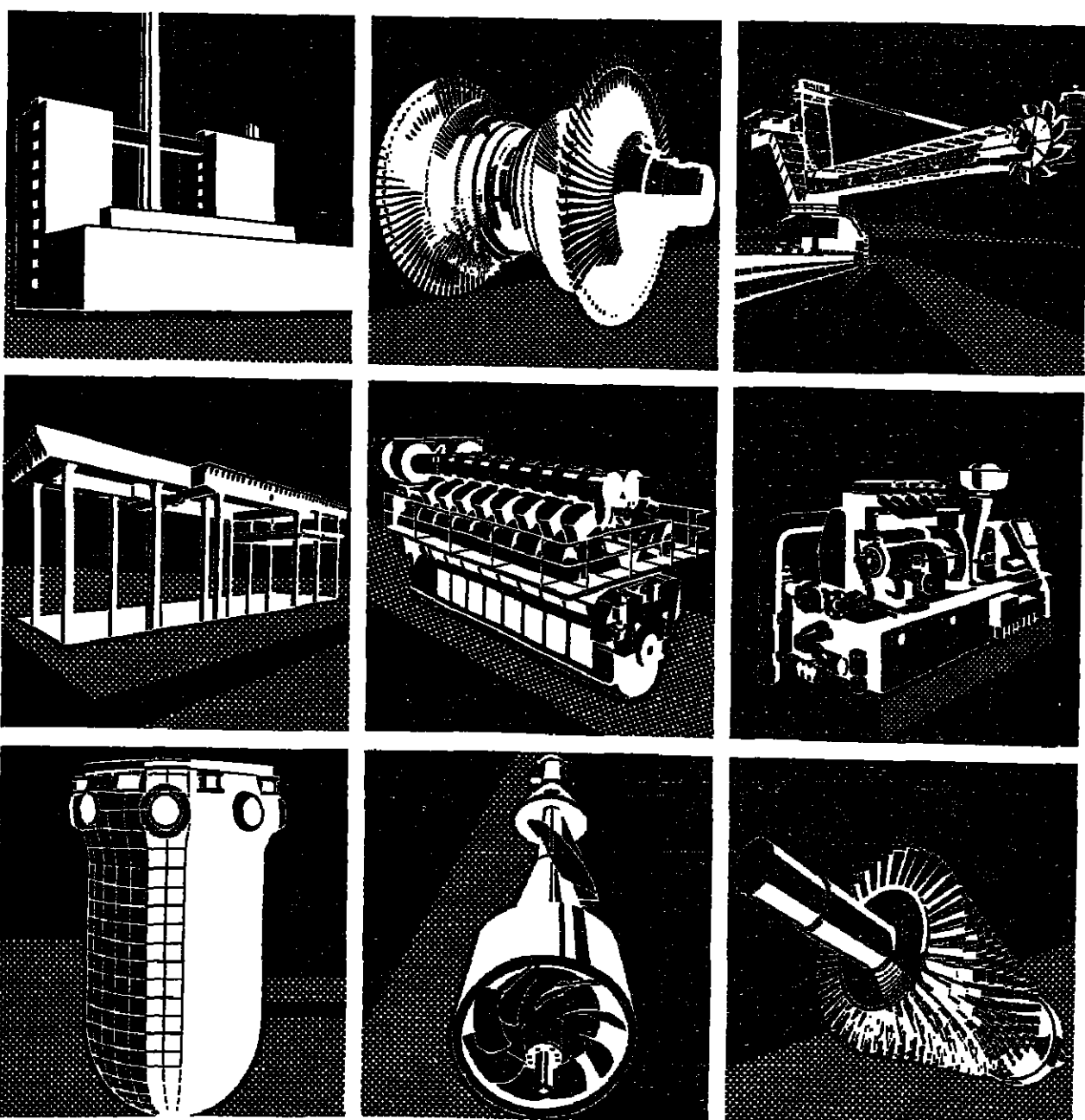
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Soviet Union Is Rich in Resources but Poor in Technology

DON GERT. After the development of the Baku oil fields in the 1870s, Russia quickly became the world's second oil producer, and a leading power. Today it is the largest oil producer, having ahead of the United States. It provides the East Europe's oil requirements to the West. It exports 1 million barrels a day, or half the production of Nigeria.

the days have long since when Russia could disrupt oil markets with its excess production. In the late 1970s, in the 1980s, and in the 1990s, it is no longer seen as a supplier of black gold available to a Russian payments deficit. It is becoming a problem.

problem is not the underdevelopment of production in successive years. As Jeremy Russell has said in his recent book "The Factor in Soviet Foreign Policy," the Russian oil industry has been underdeveloped for the past 30 years, in the hands of the Communist system. The shortages of oil and gas have been a major physical challenge. These challenges probably not serious, simply because of the Russian oil and gas reserves. Russia is having to build oil and gas pipelines every four or five years.

Larger Fields

old Baku fields have long given place to the large fields in the Volga-Ural region. A new form Russia's main oil area. But in these days, output is past its peak. In many cases, the growth, and more, is to come from the East of the Ural and above all from those of Siberia. These are rich in the consuming areas, and geographic conditions are not ideal. Yet West Siberian oil is to double between 1980 and 1990. Then it will ac-

count for about half of total Soviet production.

But in terms of resources these fields involve heavy costs. It is the mounting resource cost of bringing into production increasingly remote and difficult fields that explains the sharp slowdown in the rate of output growth from the annual 12 per cent or so of the 1960s to the 4.5 per cent achieved in 1971-75, against 12 per cent planned and the 5.3 per cent planned for 1976-80.

Beyond this there looms the worrying question of what will ultimately replace West Siberia.

Discovery of new reserves has not been keeping pace with the growth of production. Over 15 years proved and probable reserves have risen in the ratio 100:220 while output has risen in the ratio of 100:940. Even the slower production rate expected for 1976-80 is no lower than the rate that reserves grew in 1971-75.

Gas

The slowdown in oil output growth, and the uneasy medium-term prospect, come as Russia is in the middle of a major shift toward oil in its fuel mix: from

...the days have long since passed when

Russia could disrupt Western oil markets with its exports, as happened in the late 19th century.

20 per cent in 1965, to 36 per cent in 1975 and a likely 39 per cent in 1980, by which time Russian automobile ownership will be at a much higher level than now.

Inevitably, therefore, increasing attention is being devoted to al-

ternative fuels. Of course, output of gas is growing the fastest and reserves are enormous. Russia has over a third of the world's known gas reserves. Big scope exists for increasing output.

But the gas industry has had

more difficulty in meeting its targets than the oil industry. Moreover, the location of Russian gas reserves throws up some of the same problems as exist with oil. The older, nearer and easier fields have been fully developed. Again it is the remoter regions (West Siberia especially) that are having to provide the growth. But with gas, distances are far more costly than with oil, as gas costs something like five times as much to move as oil for a given heat content.

Some gas deposits (East Siberia, for instance) are too remote to

be worth moving to the central Russian areas at all. Development of other deposits requires huge capital outlay, with relatively small economic benefit emerging only much later. By 1980 the share of gas in the energy mix therefore is estimated to grow only slightly above its 1975 proportion of 23 per cent.

Coal

With coal, Russian reserves are probably even more plentiful. But they too are situated huge distances from the markets. To get them out, heavy costs would have to be borne to establish permanent working communities in remote regions—in a country that is now suffering a growing labor shortage—and infrastructure would be needed for these settlements, and for transporting the coal to the consuming regions.

These problems explain why Russia has been exploring the scope for cooperating with the West. On a modest scale, a scheme seems to be going ahead for the Japanese to help in the development of Siberian coal resources. But nothing has come of the Japanese-American project for moving West Siberian oil to the Far East coast: the quantities of oil the Russians could offer proved to be far too small, besides other problems over finance and the Chinese attitude. Most spectacular are the pending projects to move Siberian gas to Murmansk and the Far East coast for LNG shipment to the United States and Japan.

Exports

But neither of these looks feasible on economic criteria at present, unless large subsidized credits were made available from the West, if then. By contrast, piped gas to West Europe has made good progress. Here the Russians not only exchange gas for Western equipment; they also buy time, in that the gas is not delivered until some years after delivery of the equipment. Beyond this some Western oil companies are to assist the Russians with off-shore technology. But it is now clear that Western cooperation offers the Russians no easy escape from the tighten-

ing of energy supplies they will face in the 1980s.

Consequently, changes are now under way in the pattern of Russian oil trade. Russian oil exports to the West rose sharply in 1975, when the country was short of hard currency. Russian oil imports from the Middle East (including repayment of loans to Iraq) rose by a smaller amount. This year Russian oil exports to the West are up again, perhaps because Moscow is being influenced by growing unease in the West about the size of Soviet foreign debt.

But supplies to Russia's partners in Comecon are being pressed, or reduced. East European countries are now also being made to pay hard currency for some of these supplies, and much higher ruble prices (reflecting the jump in world oil prices) for the rest. Increasingly they are being forced to buy from the Middle East instead (thence the Adriatic pipeline to Hungary and Czechoslovakia now under construction) for bartered goods, or for cash. In 1980, or soon after, Russian oil exports to the West will be matched by the oil imported by Russia and its Comecon partners together. Comecon will then become a net oil importer on an increasing scale.

The oil-price revolution has drastically altered the balance of economic power between Russia and its smaller Comecon partners.

To meet their energy requirements they must now exchange vast quantities of manufactured and other goods with Russia itself or with the hard-currency world. At today's world energy price levels Russia continues to exert powerful economic and political leverage even by supplying only a diminishing proportion of East European oil and gas needs for ruble payment, as the cost of replacing these ruble supplies with hard-currency oil and gas imports is now so much greater.

Russia itself, as a net exporter of oil and gas, has gained handsomely in the short term. But its long-run energy prospects now look far more ominous, as it looks forward to the time when its net flow of oil and gas exports shrinks and eventually gives place to net imports, at possibly increasing real prices, during the later 1980s.

—A.P.

EEC's Policy Blocked by Nationalist Interests

(Continued from Page 11)

some external source (such as imported coal) will increase, not diminish. Even in 1971, imported oil provided 62 per cent of Western Europe's energy, and 59 per cent of that of the Community of Nine. By 1985, this figure was projected to rise to some 70 per cent of community needs.

This dependence grew out of the mixture of cheap and plentiful energy provided for the EEC by the oil companies. The EEC took the easy road they offered towards an economy built on a wasteful squandering of the world's oil resources and neglected other sources of energy that appeared more costly. All this is well known. Severe shortages of oil will mean many difficult years of adjustment, with grave social and economic problems. There is no substitute for imported oil in the short term. While self-sufficiency is a possibility for the United States but only with difficulty and at immense financial cost, for Europe such independence is inconceivable in the foreseeable future.

This means that Europe is committed to purchasing a major part of its energy needs on the world's market. It is committed to the future of international trade and its proper conduct. And it means that Europe's economic destiny is tied to the specific actions of the quite limited number of countries who determine the evolution of the world market in energy. In the world market

for oil the number of major participants is quite small. So far as Europe is concerned, a small number of Arab states provide 73 per cent of its total oil import requirements.

After the outbreak of the crisis the admirable and forceful energy commissioner Mr. Henri Stenoet said that it was time for the community to lay down specific objectives for a common energy policy—rather than simply make forecasts about the future. A draft resolution, outlining the community's supply pattern, for 1985, was therefore submitted to the council, which adopted it in December 1974.

The main aim of the resolution is to reduce the community's energy dependence which stood at 63 per cent in 1973, to below 50 per cent and, if possible, to 40 per cent. Such a reduction would make for greater security of energy supplies and reduce the burden which the increased price of imported oil had placed on the Nine's economies and terms of trade.

The objective is to alter drastically demand patterns for primary energy between now and 1985. On oil, for instance, the Nine hope to reduce their current dependence from 84 per cent to between 40 per cent and 41 per cent. The EEC is also trying to reduce oil imports by maintaining coal production at present levels and speeding up the development of nuclear energy as an electricity source.

Two general policy decisions taken by the EEC Council which have proved their worth are the creation of a community energy committee and the regular stock-taking of the overall energy situation in the community. These two policies constitute the only real concrete follow-up given to the decisions taken by the heads of state and government of the Nine at the December 1974 meeting. The energy committee meets regularly and has played a very useful role in the preparation of proposals made by the commission. The contact between the commission and the Nine's experts (who form members of the committee) does not always guarantee the adoption at the political level (i.e. the ministers) of measures which have been proposed with their help. As for energy stock-taking, its confidential nature guarantees the commission improved access to information and enables it to keep a watchful eye on energy supply and consumption in the community.

In parallel with these arrangements, the EEC is also involved in subsidizing research and development projects on which private companies have embarked. It is one thing for the community to have reserves—such as oil and gas—but quite another bringing them to the surface. It is estimated that oil reserves under the North Sea amount to 2.4 billion tons, while

recoverable reserves of natural gas are probably in the region of 3,200 billion cubic feet.

It is this energy potential is to be realized, considerable technological problems will have to be overcome. Offshore production of hydrocarbons (oil and gas) is difficult, dangerous and costly. The North Sea oil and gas fields are located in deep water where weather conditions are often bad and where production and transport problems are almost insurmountable.

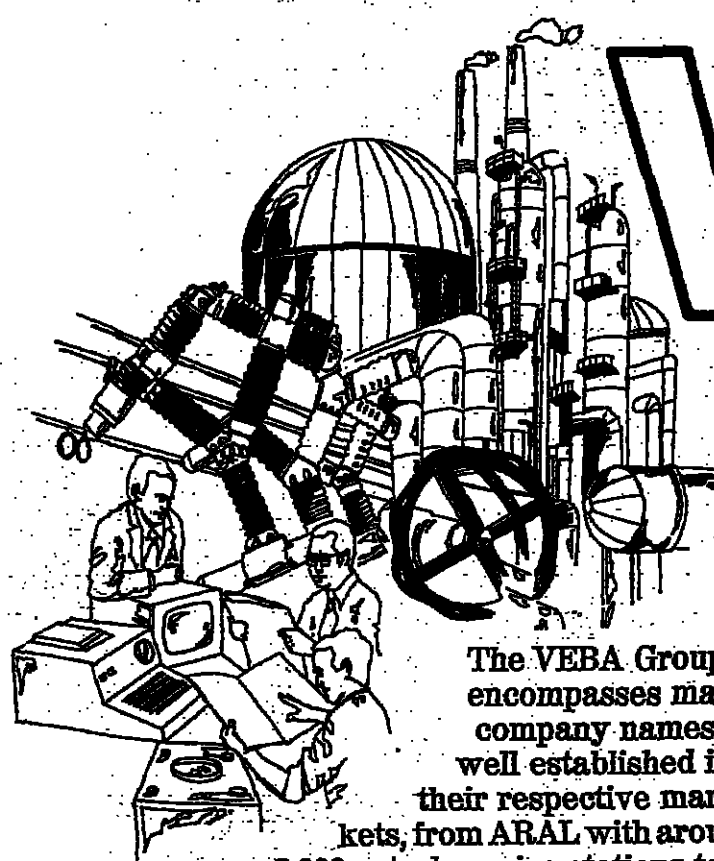
To encourage companies to carry out the necessary research and development, risks have to be minimized or made acceptable. One way of doing this is to provide "risk" or "venture" capital as a financial aid or incentive to development. In other words money is provided to help in research and development which, under normal circumstances (that is, without extra financial support or guarantee), would not be considered justifiable in the light of the risks involved. This is where the community has stepped in.

Meeting in November 1973 as the oil crisis was beginning, the EEC Council of Ministers adopted a regulation providing for financial support for community projects in the hydrocarbons sector. This support was intended to promote technological development activities directly connected with prospecting for, producing, storing or transporting hydrocarbons likely to guarantee com-

munity energy supplies and accelerate the development of its hydrocarbon resources.

In general it was considered that, since these projects would involve technical risks and heavy costs, financial support from the community was necessary to keep their development from being blocked or delayed. Thus, the community planned to provide venture capital for projects offering reasonable prospects of success—projects sponsored by EEC companies and other organizations. Agreement on the first community financial support in the hydrocarbons sector was reached last year when EEC energy ministers meeting in Brussels agreed to grant community aid worth 42.5 million units to finance 21 projects. This community support will take the form of guarantees on loans or subsidies repayable under certain conditions (that is, if the projects turn out to be a success).

However, laudable these and other EEC energy policy ambitions might be, it has to be admitted that this area of policy making has still not assumed the full importance necessary demands. Of course, any energy policy must be put into the context of other policies—economic, financial and monetary and social. In all these areas there is still a lack of community cohesion. What will happen if there is another energy crisis? It is to be hoped that the European Community will not fumble as it did on the last occasion.

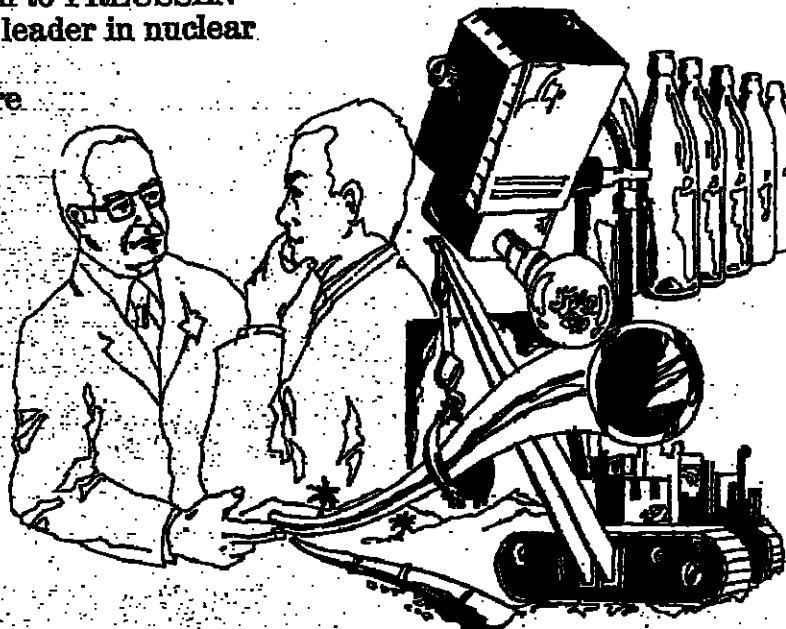


The VEBA Group encompasses many company names well established in their respective markets, from ARAL with around 8,000 petrol service stations to STINNES, specialists in worldwide trading and transportation, from DEMINEX, active in global oil exploration to PREUSSEN-ELEKTRA, a leader in nuclear power plants. All in all, there are several hundred companies that make up the VEBA Group, one of Germany's top industrial concerns, with an annual turnover in excess of DM 25 billion (1975 DM 24.8 billion).

During the first six months of 1976 turnover of production increased by 10.6 %. This includes among others petro-chemicals

and organic products, plastics, fertilizers and hollow glass.

The turnover of the service sector comprising trading and transportation as well as freight forwarding and handling, ocean and inland shipping and the pioneering of new markets was up by 11.8 %.



VEBA's paramount activity, electricity generating and supply which regularly absorbs more than 70 % of total group invest-

ments, achieved a 19.2 % increase in output during the first six months of this year. In this sector, VEBA's more than 70 years of experience in power station planning and construction play a major role and its traditional energy sources coal, oil and gas are ideally complemented by its advanced technology in nuclear power generation.

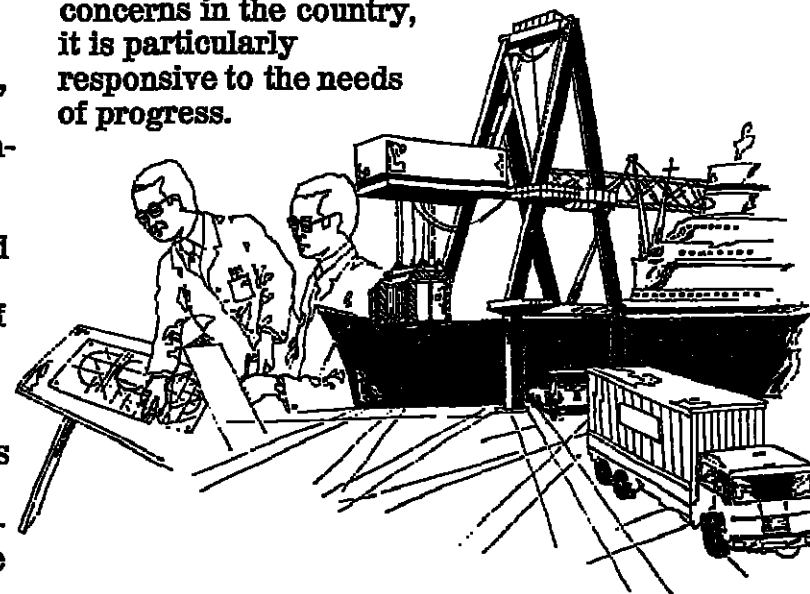
Overall the Group achieved a profit increase of 104 % in the first half, reaching a total of DM 96 million.

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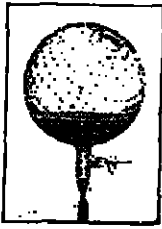
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مكتبة الأمل



Industrialized Nations Slow to Set Up Conservation Policies

PARIS (IHT)—There are two ways in which consumer countries can reduce their dependence on energy imports. They can increase the role of indigenous energy in total consumption or they can reduce demand for such imports by energy-saving policies. When the International Energy Agency (IEA) was set up in November 1974, its members decided that both techniques would have to be used if Western countries were to restore some balance to the oil market. Supplies would have to be increased through increasing production of indigenous resources and intensifying research into alternative forms of energy, demand eased by reducing the extravagant consumption habits that had developed during the cheap oil era.

During the first months after the oil crisis, Western energy experts believed that the very increase in oil prices would be enough to turn the current sellers' market in oil into a buyers' one. In a study published by the Organization for Economic Cooperation and Development (OECD) at the beginning of 1975, "Energy Prospects to 1985," forecasters at the Paris-based organization claimed that the present price of oil would result in such an increase in indigenous supply and such a cut in demand growth that by 1985 consumer countries would have reduced their dependence on energy imports to only 20 per cent of total energy requirements, compared to some 35 per cent in 1972. With a very special effort in production and conservation, which the forecasters did not consider likely, almost complete independence of imports could be achieved.

According to the report, if oil prices remained at current levels (expressed in the report as \$9 in 1972 prices) the OECD countries' total energy consumption would rise to 5.6 billion tons of oil equivalent in 1985 from 2.4 billion in 1972, while indigenous supplies would reach 4.4 billion from 2.2 billion. If special efforts were made over and above

the automatic result of a higher oil price, supply could be as high as 5 billion, due largely to increased indigenous oil and gas production, while demand could be cut to between 5.4 to 5.1 billion. In this scenario dependence on imports would fall as low as seven to two per cent.

Oil Imports

But what everybody is really worried about is the OECD's dependence on oil imports. For not only is there a limit to the rate at which producers are ready to extract their crude, but there is also the prospect of world supplies running out altogether. Under the OECD's long-term projection, indigenous oil supplies were expected to reach 1.3 billion tons of oil equivalent on the basis of present prices compared to 662 million in 1972. In total, oil consumption was expected to reach 2.3 billion compared to 1.8 billion in 1972, resulting in oil imports falling to 1 billion from 1.16 billion in 1972. Imports at this level, some 20.7 million barrels a day, would be enough to turn the sellers' market into a buyers' one.

Two years after that report was published it is becoming clear that consumer countries will get nowhere near the 20-per-cent dependence target for total energy imports, let alone the virtual self-sufficiency envisaged by OECD's crystal gazer. But what is much more worrying is that imported oil requirements may exceed what the OPEC countries are even ready to produce. With indigenous energy supplies now only expected to reach little more than 3 billion tons of oil equivalent, less than what had been expected had there been no oil crisis, and demand only marginally down at just over 5 billion, largely as a result of slower economic growth, dependence on imported energy as a whole is expected to be nearly 40 per cent. On present demand projections oil imports would pass the 1973 levels of some 26 million barrels a day to reach 35 million. And even

that assumes that nuclear programs are maintained at present levels and that the United States relaxes its price controls on oil in 1979.

When the demands of non-OECD countries are taken into account, there is no way in which such oil import requirements could be met unless Saudi Arabia agreed to push its production well over 10 million barrels a day. But Saudi authorities have stated that they have no intention of raising output beyond around 8 million barrels a day. Unless something dramatic is done, consumer countries face another sizable oil price increase, if not a complete cut-off of supplies.

Exaggerated Potential

So what went wrong? It seems that the main reason why indigenous production is not going to be as high as expected is because U.S. energy experts, and as a result OECD forecasters, exaggerated the oil and gas potential of the United States. With United States oil output in 1985 now expected to be less than 12 million barrels a day compared to 18 million, overall OECD supply may be less than 19.5 million compared to 26.7 million originally forecast. U.S. gas output is expected to be less than 440 million tons instead of 580 million, bringing overall OECD supply to less than 700 million compared to more than 1 billion. In the case of coal and nuclear energy the outlooks are due to a slowdown in demand and environmentalist opposition, but U.S. output is expected to be only 580 million compared to 660 million, bringing overall OECD production to 938 million from 998 million. In nuclear energy, 1985 capacity is only expected to be 450 million tons compared to 756 million, largely because of slippages in U.S. programs.

On the conservation side some definite progress has been achieved, but it may also prove to be an illusion. According to a recent IEA report "Energy Conservation," total IEA energy consumption in 1975 was 4.8 per cent down on 1973 levels and 14.3 per

cent lower than what had been expected before the oil crisis. Realizing that skeptics will argue that these savings were only achieved because of the recession, IEA economists have shown that virtually all members succeeded in reducing their energy consumption in GNP terms. A fairer assessment of the IEA performance would however have taken into account the even sharper fall in industrial consumption, which is a major source of energy consumption.

Industrial Consumption

The real success of conservation programs will only become apparent this year and next when industrial production recovers. Last year the consumption of industry, which represents 37 per cent of total energy demand, was still 11 per cent below 1973 levels, while transport and residential commercial sectors, which accounted for 27 and 36 per cent respectively, were almost back to their levels two years earlier. Transport and commercial/residential are sure to exceed their 1973 levels this year, but the great question is whether economic recovery will lead to a particularly sharp increase in industrial consumption.

In the first panic of the oil crisis, Western governments introduced a whole series of spectacular measures aimed at driving home the critical supply situation. There were carless Sundays, restrictions on shop lighting, reductions in heating, cancellations of motor rallies and early close-downs for television programs. But since then the IEA has adopted rather more long-term policies with the main

priority of reducing oil consumption.

In the transport sector the United States has set an example by limiting motorway speeds to 55 miles an hour, but its cars still consume almost twice as much as per mile as European models (although manufacturers are expected to introduce more economical cars from 1980) and drivers continue to benefit from extremely low gasoline prices. In Europe where cars are less extravagant in their consumption and gasoline prices are very high, speed limits are not always fully respected. Between 1973 and 1975 the worst performers in the transport field were Japan, West Germany and Canada; the best, Britain, Holland and the United States.

In the commercial/residential sector a succession of mild winters has been the main cause of energy savings, though some conservation has occurred through the higher prices charged. Governments are concentrating on making sure future houses are insulated properly, which could reduce consumption by as much as 50 per cent, but it is not always easy to reduce consumption in older houses. Worst performers in this field have been Italy, Holland, Canada, Denmark and Spain, the best, West Germany and Japan.

In the industrial field the main energy consumers are heavy industries like iron and steel which alone account for eight per cent of total energy consumption, aluminum production and chemicals for between six and seven; pulp, paper, glass, cement and building industries for two to four per cent. Several govern-

ments are encouraging these industries to adopt energy saving equipment without losing their trade competitiveness. Performances in the industrial field are difficult to assess in view of the different growth rates of member countries. Japan, West Germany, Holland, Sweden and Belgium did less well than the United States, Canada, Britain and Italy. Only Spain actually increased its consumption.

Just as on the supply side the role of the United States is all-important, it is equally so in conservation. U.S. energy consumption last year was 12.7 per cent down on what had been anticipated before the oil crisis, but on a GNP basis it was one of only three countries that did not actually achieve any basic energy savings during this period. Characteristic of the U.S. failure

to take conservation too seriously has been the inability of the government to bring oil and gas prices up to market levels.

When the IEA issued its report on energy conservation, some concern was expressed as to whether governments were really prepared to take energy conservation seriously. Noting that most countries considered supply expansion more important than energy conservation, the agency claimed that investments required to achieve energy savings would have a higher return on gross domestic product and employment than many of the supply expansion alternatives being considered by its members.

It is significant that in its latest proposals to reduce anticipated oil imports in 1985 by 11 million to 24 million barrels a

day, conservation is accounted for 5 million, measures proposed are gasoline consumption tax credits for installing saving equipment, deletion for new houses and tag of price controls on products. On the tag which is to bring in at least \$1 billion in 1985, the IEA is pushing ahead with short field, subsidies for increasing oil recovery, give greater in nuclear power and interest rates for energy. In the meantime, there is a chance that the IEA's that extra oil than the secure the extra supply.

Uncertain Future for Oil Majors

LONDON (IHT)—The heyday of the international companies was the period between the wars. Exxon and Shell were multi-nationals 50 years before the word was invented. British Petroleum, with its vast supplies from Iran, soon followed, later reinforced by supplies from Kuwait, with its partner there, Gulf Oil. Texaco and Standard of California went international when Saudi Arabian crude began to flow in quantity. And the seventh sister, Mobil, emerged from the break-up of the old Standard Oil trust with several of the overseas bits of the old empire.

These integrated oil companies search for, produce, refine and sell oil products all over the world, spanning the world with their organization and distribution systems, smoothly and quickly balancing up demand for different types of products and crude oil. Large, integrated self-sufficient organizations, protected from government pressures by their size, expertise, internationality and commercial élan, the companies have aroused awe, suspicion, admiration and hostility.

After the war the legend persisted, but the reality began to change. As oil became more important globally, governments became more assertive in several ways. European governments began to ask awkward questions about the prices charged by the majors to their European subsidiaries. These worries soon gave place to others as Middle East production built up during the 1950s. Consuming governments became uneasy about their growing dependence on cheap fuel imported from an unstable region of the world.

Consequence

But the surge of cheap oil was partly the consequence of the fact that the grip of the majors on the upstream end of the business was beginning to slip. Independent American companies had muscled in. So had state-backed European national companies like Italy's ENI and the French Elf-Rep. And, by forming OPEC in 1960, producing governments made sure that the oil giant did not eat into their revenues, but entailed merely lower profits for the companies. In the 1960s the majors' predominance was under challenge from newly-assertive producer governments, by competition from independents, and by an increasingly watchful attitude by consumer governments, as oil became their industrial lifeblood.

In 1970 the pattern changed abruptly. The producers were able to negotiate big improvements in their concession terms.

Suddenly the companies looked weak and helpless. The producers got the message.

In 1973 new terms (prices) were imposed without a pretense of negotiation. And by this time moves were afoot for the producing governments to take over the production altogether, relegating the companies to the role of buyers, and the providers of specialist expertise.

The companies still own the tankers, and refineries and the gas pumps. Above all they have the crucial expertise to ensure that the right oil is at the right place in the right quantities at the right time. They also have the financial strength for the increasingly costly job of exploration, which entails pouring millions of dollars down a row of empty holes, with no certainty that there will be a full one.

Criticism

Crucial though this service is, the fact remains that—with an incipient world oil shortage—mere possession of the downstream facilities does not give the companies any bargaining power over the oil price. In consequence they have become a focus of criticism. In America, the companies are accused of making OPEC's cartel work.

In fact, in the last two years the companies have shown considerable alertness in switching their buying from one OPEC crude to another, in accordance with small fluctuations in values and prices of various crudes. But so long as the whole system is underpinned by Saudi Arabia, there is clearly not the slightest chance of this market activity exerting any pressure on the OPEC price.

Unconveniently, the 1973-74 price-jumps hugely boosted oil companies' book profits—at a time when motorists were lining up for hours for gasoline. The shortages, the profits and then the unexpected non-collapse of OPEC in 1974-75 served to awaken all the lurking antagonism toward big oil in the American collective subconscious.

Hence the price controls, which have held down American oil prices below the world market prices; hence the loss of tax rebates, and hence the campaign to split up the big companies. This campaign now seems to have run out of steam, though Mr. Carter has guardedly shown interest in at least making the oil giants get out and stay out of the business of competing fuels.

Outside America the influence of the majors continues to shrink. The disappearance of the oil-giant has stifled the competition they suffered from the

independents (and proved calamitous, official legend West Germany and the E.C. Community).

But they now face on hand the advance of the companies of the producing nations moving into tanking with plans to set up refineries. On the oil they face state-owned or backed national companies consuming countries, who being closer to the market positions, in their local markets (such as France), these given the inside track in producing areas: as with in Norway, the British N. O. Corporation in Britain more heavily, Petrobras in C.

All this leaves the future of the majors more cloudy than ever. At any time in the 50 years' career the future of the majors lies in the hands of the logistics of matching production and demand.

Shell—which started life being closer to the oil fields than the majors most associate with this idea. The tag would fit that other one-time man, Exxon.

Others are themselves, as essentially providers of a British Petroleum, which life as a producer and saved for its exploration might see things this way.

A third concept would be the majors to evolve into broadly-based international new organizations, not coe themselves to oil. Mobil major that comes closest to concept.

These might be the three ways the majors might see future for themselves. Mark the more far-sighted of have other worries. Unless companies can provide enough adjustment and even in the worst oil economy will be attacked. Big time like 1973-74 are blamed on majors. Some often see a bigger upheaval not more 10 years away.

Unless the world adapts to the fact that its oil resources are already being burnt up as fast as they are found, the consumption rate is still; obviously, that future finds be increasingly expensive and alternative sources are being developed too slowly, there will be a violent adjustment sometime the 1980s, with shortages, rising prices or both—perhaps for the oil the oil will be certainly be blamed.

Hence the urgent need slightly frantic world-wide companies like Exxon and to consumer governments something now.

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By Barbara Burke

One of these sources is the sun. But solar energy comes up with a few problems. It is clean and infinite. But it is also difficult and unreliable. The sun sets and it goes behind clouds. The cost of collecting solar energy—and especially, of storing it—is a problem. Solar energy is most easily used in buildings or water; despite the initial cost, in the long run it is competitive with traditional systems, at least in relatively sunny areas. The prin-

Wind:

Dr. Dieter Renz of the International Energy Agency says that along with solar energy, the wind is the most promising new source in the short term, although not on a large scale. Like solar energy, wind energy is clean and plentiful, but unreliable. Yet,

The earth contains enormous amounts of heat, produced by the

Producing electricity requires higher temperatures than those used for heating; this can come from steam, from hot salty water, or from hot dry rocks. Electricity is already being produced from geothermal steam in Italy, the United States, Japan and New Zealand.

Unfortunately, the most plentiful source of geothermal energy is hot, dry rocks, which require the development of new techniques. At ERDA's Los Alamos Scientific Laboratory in New Mexico, researchers are experimenting with a technique borrowed from the petroleum industry.

Called hydrofracturing, it consists of pumping water under high pressure down a hole to crack the hot rock. A second hole is then drilled, and cold water forced down one well, seeps through the cracks and returns hot to the surface, through the other hole.

But whatever source is used, there is a pollution problem: the water or steam that comes to the

either by oxygen-free fermentation, or by heating them under special conditions. Unfortunately, by fuels so far produced this way are not competitive.

One problem is that green plants convert solar energy with an efficiency of only about one per cent; researchers would like to increase that, to three per cent. But even then the growing of plants for energy on a large scale requires lots of land, which might compete with food production. And the costs of cultivation, harvesting and transportation are such that some experts consider biomass a "fringe technology."

It might, however, be important for countries with large uncultivated land masses: it has been theorized that Sweden could free itself from oil imports by cultivating fast-growing trees. And the use of organic wastes to produce energy is interesting, since you have to get rid of the wastes anyway.

The Sea:

the world's total hydro potential. Interest in water is strongest in the United Kingdom and Japan.

Fusion:

Fusion is a gamble. If it works it could eliminate the energy crisis once and for all. But no one knows whether it will work; and if it does, it will be at least 25 years.

Present-day nuclear power plants rely on fission, the splitting of atoms. Fusion is the opposite: the nuclei of two small atoms are joined together to form the nucleus of a larger atom. In the process, a bit of mass is converted into energy. Fusion powers the sun—so, in a sense, it is already the source of almost all our energy supplies. It is also the basis of the hydrogen bomb. The problem is to reproduce it in a controlled, continuous way.

There are two basic approaches. In one, two gases are contained within a doughnut-shaped torus, and heated to a

PARIS (IHT).—The trouble about electricity is that it is an extremely inefficient way of supplying energy. It may be convenient, clean and easy to use, but it is extremely wasteful of the energy sources required for its generation. When gas or oil are used directly for heating purposes, between 60 and 80 per cent of their energy is applied, but when these fuels are used to generate electricity, the output is only 40 per cent, or even less.

primary energy, losing power according to the distance it is transported and cannot be stored. Originally electricity was made out of cheap hydro power. This is the reason why countries like Norway, Sweden, Switzerland and Canada have benefited from such cheap energy. But the number of sites for hydro schemes is limited, and coal soon emerged as the main source for electricity generation. With the arrival of cheap oil and gas supplies during the 1920s.

situation of the utility companies and a resulting cutback in investment plans.

Slowdown

Although the slowdown in the growth of electricity demand has occurred in a general flattening out of energy expansion, there is now a very real danger that utilities will delay their investment programs so long that they will no longer be able to turn to nuclear plants for any demand

to becoming an all-electricity society. The electricity option as such just cannot be abandoned. But much fuller use could be made of the energy produced. At the moment 60 to 70 per cent of the energy produced by a coal, gas oil or nuclear plant is wasted, 75 to 85 per cent in the case of solar. That energy could be used for district heating if only people would agree to having power plants built near urban centers.

and introducing accumulation systems which store electricity overnight for use during the day. Electricity generated at low-demand periods could be used to create further energy potential as when water is pumped upstream during the night in some hydro complexes.

Finally, the storage and transport problems posed by electricity could be overcome through the manufacture of hydrogen. In the end these savings could prove to

Tides have been used to generate electricity at the Rance estuary, near Mont Saint Michel in France, for several years. But at high costs, the environmental impact, and the scarcity of good

In the other approach, called laser-implosion gas jet, tiny pellets are bombarded with laser beams.

In either case, sea water provides virtually inexhaustible amounts of cerium for use in fusion machines.

But even if physicists succeed in achieving self-sustained fusion—which could be achieved in the next ten years—the job will not be over. At that point, engineering problems would have to be

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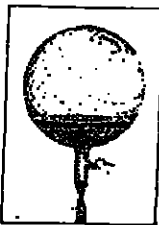
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Economy: Dwindling Reserves, Little Progress on New Sources

(Continued from Page 11)

distribution and consumption patterns throughout the world. In the article on oil we observed the huge deficits between production and consumption in the Western world, including the United States, with the bulk of reserves held in the Middle East, Africa and the Soviet Union. The second table (P. 11) compiled by the U.K. Department of Energy from a variety of sources indicates in broad terms the geographical distribution of reserves in the four main fuel sources (billions of tons of oil equivalent).

The exploitation rate of even "proved and recoverable" reserves depends very largely on the urgency factor: that is, the technical, financial and manpower resources devoted to the task. For example:

The correlation between the price of uranium and the rate of exploration is a crucial one. Prospecting of uranium was virtually halted in the early 1960s by the "thaw" in international politics followed by uncertainties in the nuclear energy programs of advanced nations. This in turn led to a rundown in stockpiles; but according to some estimates

a 50-per-cent increase in price to \$45 per lb. compared with the \$30 quoted in our two tables would in fact quadruple the amount of uranium available for use through intensified prospecting.

This is already happening: at one time during the year the price per lb. reached \$42.

Technical and transport problems, shortages of manpower (and spare population), distance from the consuming markets and the need for huge capital investment stand in the way of a full exploitation of vast and partly proved resources, including shale oil in the Rocky Mountains, U.S., tar sands in Alberta, Canada, and, above all, the coal, oil, natural gas and water reserves of western Siberia, in the Soviet Union.

In fact, the Soviet Union alone is estimated to possess almost two-thirds of the world's coal (hard and soft), almost one-third of natural gas, one-eighth of crude oil and a large proportion of the so-far untapped water resources of the world. But some of these reserves are in the remote regions of Siberia where lack of infrastructure, extreme weather and soil conditions, the lack of population in the sense of both working the resources

and as consumers, and the necessity of transmitting fuel by rail, road or pipeline or in the form of electricity along cables would in any case be formidable obstacles to faster exploitation.

The Soviet Union, with plenty of more accessible energy reserves, has no great urge to accelerate progress. The situation may change if the Soviet Union felt obliged to step up exploitation on political grounds in order, for example, to export to prospective or wavering allies, particularly in the Third World.

The position of the West is, of course, rather different. In spite of the fresh offshore supplies of oil and gas from the North Sea (and of increased onshore natural-gas supplies from the Netherlands) and a crop of new nuclear power stations, IEA foresees the gap between domestic production and consumption of energy within the OECD group of countries steadily widening over the next 10 years (see third table, page 11).

Nuclear Dilemma

One major factor in this deteriorating self-sufficiency situation is the United States with its increasing reliance on imports, particularly of Middle East crude. Another factor, shared by all the

advanced Western nations, is the perceptible slowing down in nuclear power programs.

As already indicated, the only source capable of narrowing the energy gap in the West in the medium term are nuclear power and offshore oil and gas in the North Sea. Not long after 1985, both oil and gas production in the North Sea are expected to start falling off and the Western world will depend increasingly on nuclear power to meet energy needs, particularly in terms of electricity

generation. Marginal increases in coal output in the United States, the United Kingdom, and West Germany (including a major new soft-coal field) would only be sufficient to maintain a reduced share in total energy supply.

The question of uranium prices has already been touched on, but, of course, the escalation in the prices of alternative fuels, coal and natural gas as well as oil, in recent years has in any case altered the economics of energy, particularly of electricity genera-

The Costs

	LWR	Coal	Oil
1960	367	235	206
1974	500 ± 75	425 ± 40	350 ± 25
Range of ratios between estimates	1.59-2.15	1.84-2	1.63-1.88

tion. That is why an increasing number of power utilities are looking to nuclear energy as a future fuel source: a trend greatly encouraged by the atomic energy agencies and some energy ministries in various Western countries.

A leading exponent of the nuclear argument is the International Atomic Energy Agency, whose chief economist, R. Krymm, recently produced a paper on the economics and prospects of nuclear power generation in the developed as well as developing world.

Dr. Krymm sees many variables in the equation for even the conventional (thermal) nuclear power stations. In terms of fuel costs, reprocessing and fabrication may be set against the value of reprocessed uranium and fissionable plutonium for recycling in the reactors. So estimates on this score alone may vary between a "profit" of \$130 per kg. of metal in the most favorable circumstances and a "deficit" of over \$100 per kg. in the most adverse ones.

But even in case of the latter, Dr. Krymm says, the break-even prices of coal and oil (that is, the levels above which nuclear power stations would enjoy a competitive advantage)—\$3.76 per 10 million kilocalories of coal and \$4.56 per the same value of oil—would be exceeded in most locations under the present price structure. In the most favorable circumstances for nuclear fuel, the break-even prices for coal and oil would be \$1.84 and \$2.35 respectively, which, Dr. Krymm calculates, would give nuclear power stations "an overwhelming economic advantage."

Other Factors

There are, of course, other factors to consider in comparing costs. Capital costs for all types of power stations have escalated in recent years as a result of soaring material and labor costs. The range of cost increases is widest at nuclear power stations, as shown in IAEA estimates (above table) relating to changes in unit investment costs for light water (pressurized or boiling) reactors, coal and oil-fired power stations of 1,000 to 1,100 megawatt capacities, between 1969 and 1974.

The ultimate cost of power stations depends of course on factors other than fuel costs and capital expenditure. Such factors include the average load factor, periods of amortization and the availability of alternative fuels. According to Dr. Krymm in particularly import-sensitive areas such as Western Europe and Japan, IAEA case studies had shown that in the case of plants of 900 megawatt and above, nuclear power stations have a decided advantage over oil-fired ones.

He also argues for such appraisals being carried out on the basis of alternative power station programs rather than of single stations, "with a corresponding spread of the rather costly nuclear entry ticket over several plants." Therefore, Dr. Krymm adds, "the reasons for the paradox of shrinking nuclear programs in spite of the cost advantages must to a large extent be sought beyond the field of economics even though the latter may account for short-term effects."

These reasons include the well-known examples of plants ordered in the late 1960s on assumptions of 6-7 per cent annual growth in consumption coming into operation in the no-growth years of 1974 and 1975 and leading to unused capacities at a time of shortages of capital and escalating fuel costs.

Developing countries faced an even greater difficulty in funding capital costs. The uncertainties of the nuclear fuel cycle were yet another reason for the slow-down in nuclear power programs. Finally, there is what Dr. Krymm calls the level of "public acceptance"—the psychological resistance to nuclear power itself, particularly to what is called the "plutonium" economy highlighted by the fast breeder reactor.

But even if one ignores the fast breeder reactor for the moment, could nuclear power fill the energy gap in the last decade-and-a-half of this century? The IAEA's projection for the year 2000 suggests that even under the most favorable circumstances, with nuclear power generating well over half of total electricity, it would still meet only less than one-third of the total energy needs in North America or in Western Europe. The remaining gap would therefore have to be filled by alternative fuels and methods of power generation.

It is the balance of such considerations that will eventually decide the degree and speed of exploitation of the Canadian tar sands or the oil shale deposits in Utah and Colorado, unless of course political strategy dictates otherwise.

Conservation

One way of slowing down the exhaustion of the world's energy reserves is by conservation. The United States imports 45 per cent of its crude oil requirements in spite of being the world's largest oil producer. The energy consumption per head in the United States—and in Canada—is more than two-and-a-half times that of Western Europe or Japan and more than five times the world average. Some experts claim that the potential savings in energy use in the United States may be as high as 50 per cent; although it should be noted that while the United States, with less than 6 per cent of the world's population today consumes 30 per cent of the

world's energy, 20 years ago its proportion was as high as 30 per cent. Since the 1973 energy crisis, as we have noted, consumption has dropped and some of the savings have been pressed in relation to GDP (which, as indicated, has a direct relation to energy use), the overall savings in energy consumption between 1973 and 1975 was 2.7 per cent, ranging from 18.5 per cent in Belgium to 1.5 per cent in Norway, Iceland, Denmark, 7.5 per cent in U.S. and 7.4 per cent in U.K. (the top several) to 0.5 per cent in consumption of 3.5 per cent in Italy. The ratio was unchanged in the United States.

According to Dr. M. L. Slim Shihrah, senior vice-president of the U.S. corporation Conoco (which has a stake in the Alberta tar sands), less than 10 per cent of the deposits can be surface-mined.

Oil shale, too, exists in large quantities, particularly in the U.S. where, Dr. Shihrah reckons, the Rockies alone contain 800 billion to 1,000 billion barrels of extractable oil. Pulverized shale is used directly to fuel power stations in the Soviet Union and also as a base material for gas. In Scotland mining was abandoned as uneconomical in the early 1960s. It is the economic rather than technical difficulties that hinder exploitation of both shale and tar sands at present, although Canada has plans to produce 10 million tons of oil a year from the Alberta sands by 1980.

The extraction of oil and gas from coal was technically solved a long time ago, with Germany liquefying coal on a large scale out of sheer necessity during the Second World War. Coal gas had been the main method of gas production until oil feedstock and more recently natural gas made it uneconomical. New methods of gasification, both underground and in a gasifier, have still not managed to bridge the price gap sufficiently.

Dr. Shihrah has calculated that oil or gas produced by any of these methods would cost \$24 to \$27 a barrel, which is more than twice the present price of crude oil and several times the price of gas. However, these vast deposits of tar sands, oil shale as well as coal, do ensure a strategic reserve of fossil fuels once the more accessible and direct supplies begin to dry up.

"Less accessible" sources of energy are, of course, already being tapped: typical examples are the Siberian coal oil and gas deposits, Alaskan oil, and nearer home the offshore exploration off the coasts of the Middle East, the United States, the United Kingdom, Norway and other places.

The capital costs of exploiting these sources are much greater per ton of fuel recovered than, for instance, onshore oil or gas in the U.S., Canada or the Middle East. According to one estimate, North Sea oil costs eight times as much to produce per barrel as Middle East oil; Alaska even ten times as much. Yet the capital costs of shale-based oil are estimated to be still 60 per cent more than the Alaskan oil and twice as high as North Sea oil. The cost gap between Alaskan and North Sea oil on the one hand and oil from tar sands is even larger.

The Costs

The North Sea exploration program is a typical example of cost-consciousness, considering that a single large field such as the Forties or Brent, with annual peak production targets of 25 million to 30 million tons of oil, cost around \$1.5 billion or more each to develop. So far 15 oil and six gas fields (the latter mostly in the southern North Sea) are on stream or have been officially scheduled for commercial development. But while Lord Kearton, chairman of the U.K. government-sponsored BNOG, reckons that they will produce returns of more than 90 per cent on capital invested and that the commercial development of seven or eight further fields may be announced within a year, the exploration consortia involved are obviously watching closely the trend of oil prices, inflation in development costs (including capital equipment), the U.K. government's taxation and participation policies and even movements of the sterling before embarking irrevocably on tapping the new wells.

It is the balance of such considerations that will eventually decide the degree and speed of exploitation of the Canadian tar sands or the oil shale deposits in Utah and Colorado, unless of course political strategy dictates otherwise.

Alternatives

The exhaustible but so far barely tapped oil resources of the world include tar sands and oil shale. Oil and gas can also be extracted from coal which, as indicated above, is the most abundant fossil fuel on earth. Tar sands exist in many areas of the world but by far the largest deposits are located in the Alberta province of Canada. They are estimated to contain 300 billion barrels of recoverable oil. It

requires two tons of tar sands to produce a barrel of oil, which poses the problem of waste disposal apart from the technical one of extracting the oil. Venezuela is also thought to have deposits of up to 50 billion recoverable barrels, while these deposits compare in size with the oil reserves of the Middle East, sheer accessibility rules out economical exploitation of all but perhaps one-fifth of the total.

The reason for such conservation in the U.S. (where the average of 3.4 cents is countries as a whole, 34¢ in the U.S. and 4¢ in Canada compared with 1¢ in the U.S. and 1¢ in Canada) is that some IEA members continue to price oil at low world market levels, claiming that this discourages conservation. In the U.S. the average natural gas price is 1.5¢ in the U.S. and 1.5¢ in Canada, which is the price of the West which, like the U.S., is deficient in gas. Taxes on considerably lower in other countries.

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The IEA underlines its recommendations for energy savings, from transport to the domestic user, and electricity, when average loss of heat is still two-thirds of total capacity.

Exxon Corp. in a conservation program saving on from four per cent of energy consumption in the world in 1980 to nine per cent in 1990 and 15 per cent in 2000. The total energy saved could be as much as 15 million barrels of oil a day in 1980, 24.1 million in 1990 and 33.6 million in 2000—which in fact is slightly less than the amount of oil consumed in the world in 1975.

Other Options

The fast breeder reactor as a highly efficient user of uranium has already been mentioned in this article. The commercial versions are not to appear on the scene until the mid-1980s. In the U.S., France and the U.K., possibly followed by the United Kingdom, the debate is hotting up over the risks, not only of a chemical failure and consequent radiation hazards but of plutonium "getting into wrong hands." If all energy decisions are ultimately political, the FBR is probably, so far as most, in any case capital costs (as opposed to lower fuel costs) would be larger than those of conventional nuclear stations because of high degree of built-in safety and high-cost materials. For reason alone FBRs are not to make a major contribution to energy needs in this century, if environmental and other problems were overcome.

Several other energy sources such as the sun, wind, waves and the core of the (geothermal)—all dealt with in other articles—are already vying fringes benefits to the sun but on a very restricted scale. In very special circumstances, much remains to be done to achieve widespread economical application. It pointed out by the U.K. Dept. of Energy that it took years of research and development into the peaceful use of nuclear energy to bring it to the point of supplying one per cent of the world's total energy need.

With such a time-scale it is doubtful that all these sources combined could supply even half of the world's energy needs by the turn of the century.

Energy by nuclear fusion in the form of a controlled thermonuclear fusion reactor is still more than a theoretical possibility well into the next century.

The Future?

For all the shocks created by the Middle East crisis, it has provided a blessing in disguise. It has forced the world, in particular the highly energy-dependent Western nations, to seek operation in the planning, production, use, funding and conservation of energy sources. There is a long way to go to establishing joint priorities, at least a start has been made.

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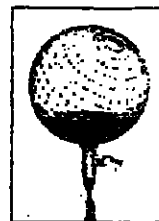
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Politics: West's Vulnerability in Prices, Participation Clashes

(Continued from Page 11)

ed on these grounds, has interpreted by Western analysts and oil companies as more than an opening gambit leading ahead. Nevertheless, the widely anticipated 10-per-cent increases are considered in advance, with arguments on their soundness and justification. The oil companies, however, have pointed out that an agreement would not only damage the balance of payments of oil-importing nations, but also the strategic aim of maintaining a friendly "buffer" in the Middle East and Africa to expansion.

Justification

for OPEC's claim to increase prices, many in the West have pointed out that an agreement would not only damage the balance of payments of oil-importing nations, but also the strategic aim of maintaining a friendly "buffer" in the Middle East and Africa to expansion.

the Morgan Guaranty Trust Company of New York published in September puts the combined current account balances thus (in billions of dollars):

	1974	1977
Oil revenues	182	128
Other commodity exports	7	9
Service exports	4	8
Commod. imports, L.O.B.	25	32
Service imports	15	26
Investment income	4	9
Current account	65	35
Current account as % of G.N.P.	1.8	1.0
Current account as % of oil revenues	36	27
Current account as % of oil exports	10	7

The decline in the OPEC balance of payments is the main cause of the vast increase in volume of imports, not by inflationary price increases, according to the Morgan Guaranty Trust review.

Morgan Guaranty adds that a 10-per-cent-plus price increase would be "very disturbing" not only because it would threaten business recovery and weaken confidence in the West but because it would appear to be unjustified by recent price movements. The price of oil in terms of manufactures, has risen by 6 per cent between 1974 and the first half of 1976, says the review; a 10-per-cent increase in the average OPEC government take next year "would imply even further appreciation in the relative price of oil."

The pressure for larger oil price increases comes from countries within OPEC which have already seen their balance of payments surpluses melt away or are on the verge of a balance of payments deficit. The former include large countries with relatively small export volumes such as Indonesia and Algeria but with ambitious programs of industrialization; the latter, countries with larger exports but limited reserves and similarly ambitious economic plans such as Iran and Nigeria.

Other big exporters such as Saudi Arabia, which contains almost one-fifth of the world's total known oil reserves and which is therefore in no hurry to accumulate funds (Morgan Guaranty reckons that of OPEC's total foreign assets of \$130 billion— which may rise to \$153 billion next year—Saudi Arabia may account for slightly over half,

would prefer a more moderate price increase; hence the sustained wooing by Western governments and companies in recent months.

Sufferers

To critics complaining about the difficulty of recycling oil revenues, OPEC counters with its own difficulties of long-term investment. Although Morgan Guaranty claims that the proportion of OPEC surpluses invested in short-term assets declined from 66 per cent in 1974 to only 24 per cent in the first half of 1976, OPEC suspects there still is resistance in the West to Arab money and particularly to Arab participation in its disposal—i.e., in the management of companies in which they invest. Major industrial investment such as Iran's stake in the West German engineering and steel concern Krupp or Kuwait's in the motor vehicle company Daimler-Benz are still the exception rather than the rule.

In any case, OPEC says, the main sufferers of oil price increases are not so much the advanced economies of the West as the non-oil producing developing countries. This is confirmed by a recent OECD estimate of current balances.

Chief Feyide recognizes that the non-oil-producing developing countries have the worst problems, unable to pay for increased oil prices by proportionately stepping up their exports. On the other hand, he claims that OPEC countries "are playing a leading role in helping to resolve these problems," through the IMF, the World Bank and direct aid.

Control

The OPEC countries do not conceal their objective of consolidating what they describe as the "New Economic Order" while oil production—and demand—are at their peak and reserves show no serious depletion. That is why Western efforts at conservation and the opening up of new sources of energy have not met OPEC resistance—always provided that economic activity is maintained and demand for oil does not flag disastrously.

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beyond revenue increases, accumulation of foreign assets and a steady market for oil, it aims at an increasing control of crude oil resources, their disposal and processing, particularly as oil—and gas—comprise around 90 per cent overall of the natural resources of OPEC countries. The process of OPEC—and other—oil producing countries acquiring first a stake in and later control of energy resources onshore and offshore began long before OPEC was formed in 1960, with the attempt by the Iranian government to nationalize the Abadan oilfields and refinery. The attempt was frustrated by an international boycott of Iranian oil which was only lifted when a British Petroleum-led consortium took over the assets formerly owned solely by BP. In December 1972, almost a year before the Middle East war, several major oil

producers, including Saudi Arabia and Kuwait, signed participation agreements with the oil companies for the progressive acquisition of majority stakes in operating companies on their home soil, thus following a recent lead by Libya. This was accompanied by a revision of the terms of the oil "take" through royalties, taxes and concessions in favor of the producing governments. After the Middle East war the period of stage-by-stage acquisition of majority control was shortened. In fact (according to Mr. E.R. Cattanilla, of the Exxon Corp.) the Gulf countries already have an effective 60-per-cent participation in the crude oil operations within their borders while Venezuela, Kuwait and Iraq have full control of their oil resources. In addition, the royalty and taxation rates in OPEC countries had increased from 12 1/2 per cent

and 55 per cent respectively in mid-1971 to 20 per cent and 55 per cent in mid-1976.

However, as Mr. Cattanilla remarks, "the appeal of complete takeover is not universal in OPEC circles."

Libya, he says, "stuck with 51 per cent participation even when the others went 60-40." Abu Dhabi "is another country which has publicly proclaimed that it wishes to retain the oil companies as investors." And while Mr. Cattanilla adds, these two countries are in the minority, the other major OPEC members (including Saudi Arabia) "seem to feel that the dependence of the consuming countries on (their) oil will be sufficient to retain the commitment of the (international) companies to providing their needs."

Changing Role

So, in spite of the status quo continuing in some countries such as Libya, Abu Dhabi and Nigeria, "in a majority of OPEC countries we appear to be moving towards a change in the role of the oil companies from that of investor to buyer of crude oil and provider of services." Some of the governments have teamed up with oil companies in downstream refineries, petrochemical plants, etc., as well as transport operations, including tankers, gas and chemical carriers and pipelines.

In its turn, OPEC argues that the changing role of the oil companies, the increase in the royalties and taxes they have to pay have not diminished their return on capital and sales. (This appears to be borne out also by their latest profit-and-loss accounts.)

Figures produced by the OPEC secretariat earlier this year purport to show that of the total cost of oil to the consumer, it is the taxes in the consuming countries that still claim the lion's share, well ahead of the share of the producing governments' take and the profits of the oil companies.

Figures reveal that during the three-year period when the total cost of oil rose from \$20.46 per barrel to \$33.17 per barrel (the actual rise in the price of oil took up by far the largest part of the total increase while refining costs remained stable and freight charges and other costs

were actually declining), the rebelling of producer governments did not prevent the oil companies from maintaining their share and taxes, from continuing to claim a large proportion of total costs.

OPEC countries still provide 90 per cent of the world's oil imports; but in the purely European context the new resources discovered in the North Sea, mostly off the shores of the United Kingdom and Norway, will go some way to reducing the continent's dependence on imported energy. (This too, is analyzed in some detail in other articles in the survey.)

The Norwegian government, through its instrument Statoff, has from the start insisted on a 50-per-cent optional equity stake in oil and gas discoveries in its sector. In United Kingdom offshore, however, a similar development through the British National Oil Corp. only took place last year after a change in government. BNOOC has 51 per cent of the oil companies from that of investor to buyer of crude oil and provider of services. Some of the governments have teamed up with oil companies in downstream refineries, petrochemical plants, etc., as well as transport operations, including tankers, gas and chemical carriers and pipelines.

Tony Benn, the U.K. energy secretary, seems optimistic that these companies would follow the example of Gulf, Conoco, Burmah and BP (provisionally) which have signed purchasing option agreements with BNOOC, particularly as equity participation is a condition of awarding exploration licenses, in the fifth round for which applications were made in October. Lord Keston, chairman and chief executive of BNOOC, claims that the state company already has direct control of about 25 per cent of North Sea production in the 1980s (when it will be at its peak) and some say in at least that proportion of the total output.

On their part, the major oil companies seem to dislike the British move even more than they did in the Middle East. They object to it partly on the grounds that the original terms of exploration had been changed unilaterally, partly (as one U.S. executive put it) for "behavior we did not expect from a member of the Western alliance" but more obviously because of such

further restriction on their operational freedom.

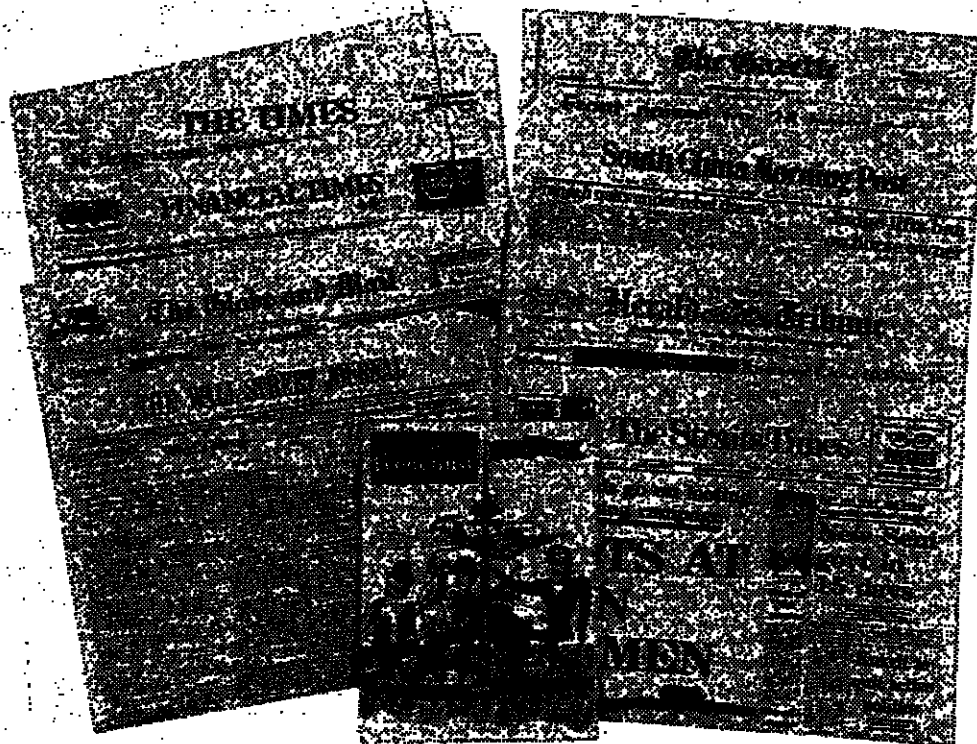
However, in the United States the entire future corporate strategy of the U.S. oil companies is at risk. Congressional attempts at "divestiture" would oblige the companies to shed their growing coal, nuclear, transport and other non-oil-producing interests. They are, of course, resisting not only because of the immediate threat to corporate strategy and profitability but because this strategy tries to anticipate long-term changes in energy patterns, including the decline in the world's oil and gas reserves and the consequent shift towards nuclear energy and other alternatives to fossil fuel.

So, in the wake of the more immediate instability threatening energy supplies (such as the prospect of another flare-up in the Middle East) looms the longer-term one associated with the worldwide expansion of nuclear energy, the advent of the "plutonium economy" and its inherent political risks. The deals involving the building of nuclear power stations in Brazil by Kraftwerk Union of Germany and a nuclear processing plant in Pakistan by a French contractor—neither country has signed the nuclear non-proliferation treaty—have aroused fears of such enlargement of the "nuclear club."

Yet another risk, highlighted by the International Energy Agency, is the increasing dependence of the advanced Western countries on imported energy. With the fast-declining reserves of the United States and the temporary stop-gap provided by the North Sea, the enormous and largely untapped coal and gas deposits of the Soviet Union constitute a political as well as economic challenge the West cannot afford to ignore.

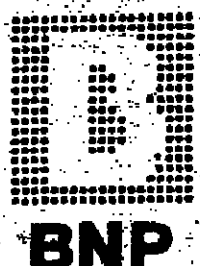
It is a challenge whose significance is enhanced by the growing gap in living standards between the advanced industrial nations and the energy-starved developing countries of Africa, Asia and the Far East. The Soviet Union may in the long term be in a better position to help bridge that gap than an increasingly import-dependent West.

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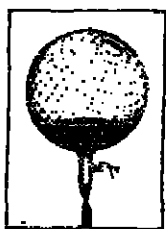
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Continuing Controversy Over Nuclear Power Programs

PARIS (UPI)—No energy source seemed more likely to benefit from the oil crisis than nuclear power. Ever since the United States exploded its atom bomb over Hiroshima thirty years ago, scientists have been trying to harness the atom's enormous potential for peaceful uses. Already in the 1950s nuclear power was seen as the natural heir to conventional fuels such as coal, oil and gas. A decade later the technology was ready, the manufacturing capacity prepared and the first orders were being placed by the utilities. But so long as consumer countries could count on freely available crude oil at rock bottom prices, there seemed little urgency in pushing ahead with the nuclear option.

The oil crisis provided that sense of urgency. The Middle East embargo made consumer countries realize how strategically dependent they had become on a few Middle East states. If something dramatic was not achieved, the policies of the United States, Western Europe and Japan would be decided not in Western capitals but in Tehran and Riyadh. With only limited indigenous oil and gas resources to fall back on, the only way the consumer countries could reduce their dependence on the Middle

East would be through a return to coal or an advance into nuclear energy. For Europe and Japan, which have limited and poor coal resources, it was only through nuclear power that greater energy independence would be secured, but even for the United States coal alone would not be sufficient.

Already before 1973 utility companies had been attracted to using nuclear energy instead of coal, oil or gas for generating their electricity requirements. Not only was this new energy source cleaner than conventional fuels and uranium supplies easily available, but there was already a slight price advantage. But with the Middle East embargo and the quadrupling of oil prices, the arguments for switching to nuclear power became very strong.

With nuclear power, utilities could obtain electricity 50 per cent cheaper than with oil or with less risk of a cut in supplies or an increase in production costs. Uranium represents only a small element in the cost of generating electricity and it can be found in a large number of countries, notably the United States, Canada, South Africa and Australia, which can be considered stable supply sources. If coal prices did not increase quite as fast as oil or

gas, the inconvenience of this fuel and the environmental problems associated with it remained.

As a result of these strategic and cost considerations, one country after another announced dramatic extensions to their nuclear power plant construction programs. Japan and France, which are particularly dependent on energy imports, decided that nuclear-generated electricity should account for as much as 25 per cent of their 1985 energy requirements. West Germany 16 per cent, and the United States and Italy 13 per cent each. Within the coming decade consumer countries were planning to install four times as many nuclear power plants as they had done in the ten years before.

The importance of the nuclear commitment was recognized by the Organization for Economic Cooperation and Development (OECD) in its "Energy Prospects to 1985" report issued at the beginning of 1975. Basing their forecasts on what member governments had told them, the OECD economists reckoned that nuclear power would supply 766 million tons of oil equivalent in 1985 compared to some 35 mil-

lion in 1972 if oil prices remained at their present levels. Representing some 600 gigawatts of nuclear power, this would have amounted to some 14 per cent of the area's total energy requirements.

Future in Question

Yet within two years of those forecasts, the whole future of nuclear energy is being called into question. Some European countries like Denmark, Holland and Belgium have halted their nuclear expansion plans altogether, other like Sweden and Britain are moving in the same direction and the future policy of the United States is now uncertain after the presidential victory of Jimmy Carter. Even in those countries which were most committed to the nuclear option, such as France, Japan and West Germany, orders are coming through less fast than expected. According to the latest estimates made by the OECD, 1985 nuclear capacity may be little more than half what was originally forecast at only 419 million tons of oil equivalent, or 330 gigawatts.

It is often assumed that this slowdown in nuclear power programs is the result of environ-

mental pressures. It is true that plant constructions have sometimes been held up by the difficulty of securing site authorizations and that governments have been influenced by popular hostility to nuclear power, but, so far, at least the main cause for the delays has been the slowdown in demand growth for electricity and the financial difficulties of utilities, whether private or state-owned.

When governments announced their nuclear expansion programs two years ago, they assumed that if energy demand as a whole were to grow less fast than in the past, the role of electricity would increase at the expense of primary fuels such as oil and gas. This increase in the importance of electricity from about 10 per cent to 14 per cent of total energy consumption was considered a natural development in the pattern of OECD energy demand, but it also helped reduce the area's import dependence.

But the governments had not taken into account the effect on demand of the sharp price increases of electricity and a severe economic recession. Instead of having to cope with an annual demand increase of some five per cent a year or more, utility companies found consumption ac-

tually fell for the first time since the war.

With their power plants working well under capacity, utilities were hardly in a position to undertake costly investments, especially when future demand remained so unclear. To make matters worse, the initial capital costs of nuclear plants rose 50 per cent within two years, the price of uranium went up five-fold and operating costs were raised by tougher environmental and security regulations. What had once been 50 per cent cheaper now had an edge of only about 30 per cent.

Delays

Rather than commit themselves to build plants which might never be needed, the electricity producers preferred to wait until a clearer picture of the energy situation had emerged. They still considered nuclear power cheaper than oil, gas or coal, but they knew that if they got their sums wrong they could always rush out an oil-fired plant in four or five years compared to the eight required for nuclear plants.

But if the delays in the nuclear power program have so far been essentially due to demand factors, there is a real danger that environmental considerations may now prove the main obstacle to nuclear development. So long as environmental groups concentrated their campaigns on the dangers of radioactive particles emitted from the plants or on the danger of leaks from the reactor cores, governments found it relatively easy to show that nuclear power was less polluting or even dangerous than a conventional power unit. Indeed, many scientists would claim that if a thorough examination of the question were made, the coal cycle from mining to combustion involves more risk to life and the environment than the same elements of the nuclear cycle.

But with public concern now being aroused over the dangers of nuclear proliferation, the use of plutonium by terrorists and the problems of radioactive waste, some governments are wondering whether the game is worth the candle. The problem is that conventional nuclear plants are in themselves no long-term solution, to the energy problem as soon as or

later they will run up against the same raw materials problems as oil-fired plants. Either uranium prices should result in the discovery of important new uranium reserves, but the present known resources of the metal are expected to run out about the same time as the world's oil and gas reserves are depleted.

So although existing reactors—be they heavy or light-water models—have enviable safety records, they are but a stop-gap measure until fast-breeder reactors have become commercial. For it is only with the fast-breeder, which consumes hardly any uranium and regenerates its own fuel, that cheap and plentiful nuclear energy will become available. But it is the fast-breeder which has now come up against the most determined opposition from environmentalists.

A conventional light-water reactor operating on enriched uranium does not in itself constitute a major health or security hazard. Whereas an atomic bomb contains 95 per cent enriched uranium and is specially designed to explode and spread radioactivity, a nuclear plant operates on only 3 to 4 per cent of uranium enrichment and is built to contain the fission process.

The real danger lies with the waste material, which contains highly radioactive materials, including plutonium used to make atomic bombs. By reprocessing this waste, utilities are still left with radioactive products which have to be stored underground in salt mines, granite or other substances, but they recuperate valuable enriched uranium and plutonium which they can re-inject into their reactors.

This recuperation is important as conventional reactors will otherwise soon run out of nuclear fuel. If they do not use plutonium, they must rely on enriched uranium-353, which represents only 0.7 per cent of natural uranium. The snag is that reprocessing is the only way in which plutonium is made available for military purposes as well.

In the case of conventional nuclear plants the dangers of nuclear proliferation could be reduced by just not reprocessing the waste fuel and restricting the facilities for enriching uranium (when enriched to 95 per cent

instead of the 4 per cent used for reactors, uranium be used for bombs). It will leave the rather inactive waste deposits, chances of nuclear proliferation would at least be reduced.

However, in the case breeders, some reproducers are essential if the are to be supplied with uranium fuel they need breeders offer the advantage of being able to produce 238 per cent of natural uranium fuel, factoring out the fuel associated with conventional plants. But they could the dangers of nuclear proliferation, especially if reprocessing facilities get into the hands.

With no really safe solution yet found to the less of nuclear waste, growing threat of nuclear proliferation, governments, a usually warring world, just to reduce their dependence on a few Middle East states. Would it not be wiser concentrate on coal, oil and all alternative and less energy sources can be de-

There is certainly a lot for politicians to slow down nuclear programs in it that these problems will

But disappear the even if nuclear programs now, the world we face problems from the waste and nuclear proliferation. In the short term, oil is a real substitute for nuclear, but there is no guarantee will be available, at least acceptable price. From a title point of view it is unwise to abandon a top just when it is about to fruit. Industrially, such would appear unrealistic in so many interests are in nuclear development still true, but special attention has to be given to the proliferation problems. When satisfactory answers questions have been found, haunting association with shims be forgotten.



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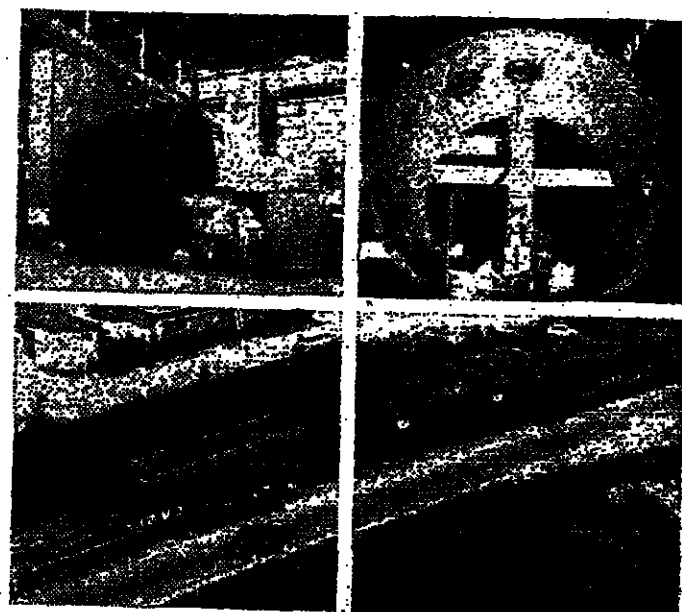
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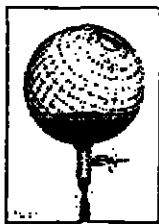
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Coal, Long Scorned, May See a Comeback

In the first panic of the oil crisis it was only natural that people should forget their old prejudices against coal, but it soon became obvious that its comeback was going to be less easy than was first thought. In Western Europe and Japan most of the coal mines remained uneconomical, even after the quintupling of the oil price. Where coal could be mined cheaply—as in the United States—problems of transport and environment still remained.

(IHT)—They had written it off. Mining companies had abandoned the mines, leaving them as dark, empty caverns. The coal industry had been in a long decline, and the public had turned its back on it. But now, in the first panic of the oil crisis, people were looking for alternatives. Coal, long scorned, was suddenly being looked at with new interest.

When it was burned and the coal waste left behind, it was a disaster. The coal industry had been in a long decline, and the public had turned its back on it. But now, in the first panic of the oil crisis, people were looking for alternatives. Coal, long scorned, was suddenly being looked at with new interest.

A Revival
In 1973, when the Arab oil embargo hit, the price of oil rose sharply. This led to a search for alternative energy sources. Coal, which had been largely ignored, was suddenly being looked at with new interest.

Whereas oil and gas would only be capable of satisfying the world's energy needs for some 40 years or so, here was an energy source with a lifespan five to 10 times as long. Reserves estimated to be as much as 700 billion metric tons were widely scattered throughout the world with some 60 per cent inside the OECD area. Already competitive before the oil crisis as a source for generating electricity, coal from the United States, Australia and South Africa should now be a complete bargain. And once the costs of gasifying or liquefying coal had been brought down, coal could even replace oil and gas as a direct energy source in transport and heating.

In the first panic of the oil crisis it was only natural that people should forget their old prejudices against coal, but it soon became obvious that its comeback was going to be less easy than was first thought. In Western Europe and Japan most of the coal mines remained uneconomical, even after the quintupling of the oil price. Where coal could be mined cheaply—as in the United States—problems of transport and environment still remained.

they could not be sure of future supplies or prices. Rather than switch back to coal with its costlier power plants, pollution problems and land requirements, utilities preferred to push ahead with nuclear, leaving oil as a fall-back position. So although the United States is sitting on coal resources which are almost as valuable as the oil reserves of Saudi Arabia, there was never any real chance that coal could immediately replace oil and gas imports. The most efficient mines could produce coal four or five times cheaper than oil, but once land transport was involved the difference narrowed sharply, and the most economic sources of coal were the open mines in the West of the United States where exploitation raises environmental issues over how the land should be reclaimed afterwards.

It was because of these difficulties and the long-lead time involved in opening up few mines that OECD forecasters never expected any immediate miracles from coal. In the 1975 study "Energy Prospects to 1985" U.S. production was expected to rise from 365 million tons of oil equivalent to 660 million, with exports increasing from 38 to 91 million, but West European production was expected to increase only marginally and that of Japan to fall slightly, although consumption in these latter areas would grow because of imports.

But even these modest consumption increases, which would have seen coal's share in U.S. energy requirements rise from

17.7 to 22.5 per cent and fall from 22.2 to 14.8 in those of Western Europe, are now unlikely to be realized because U.S. coal production is going to fall far short of original forecasts. With hardly any increase in electricity demand and a decline in steel industry requirements, there has been little incentive to open up new mines, even if the environmental problems can be overcome. In many areas transport problems still make coal uneconomical, but even where it is cheaper than oil and gas, utilities still prefer nuclear power which is cleaner, more convenient and in many cases cheaper. And if there is a problem over obtaining authorization for nuclear plants, the problems with coal-fired stations are not much easier.

A Comeback

All this would not matter so much if nuclear power was really playing the role everyone had expected. But because of the flattening out of electricity demand growth during 1974 and 1975, the rise in nuclear costs and the uncertainties hanging over nuclear energy as a whole, nuclear capacities are now expected to be little more than half that originally planned. With both coal and nuclear not coming up to expectations and little more scope left for hydro, utilities may well have to fall back on oil and gas for their power stations. With nuclear plants taking some eight or more years to build compared to little more than four years for an oil-fired plant, the longer the utilities delay the more likely it

will be that oil will continue to play an important role in electricity generation in ten years' time.

According to revised forecasts made by the International Energy Agency, oil will account for 45 per cent of the additional fossil fuel consumption needed for electricity generation in 1985, bringing its total share to 35 per cent from 30 per cent in 1974. The additional oil will account for a third of the additional oil imports required by 1985. But this does not take into account a more pessimistic assessment of 1985 nuclear capacity which could almost double the growth in oil requirements.

With growing signs that consumer countries will be much more dependent on oil and gas in 1985 than they had originally hoped, the prospect of a sharp increase in demand for oil from utilities is extremely disturbing. It is because of the threat of between 2.8 and 4.5 million more barrels a day of oil and gas being needed for IEA power stations by 1985 that the agency has just launched a crash program designed to cut back this increase by some three million and the key to that program is increased use of coal.

Instead of setting coal imports into Western Europe and Japan at 60 million tons in 1985, the agency now believes the figure could be as high as 160 million. This objective could be reached if utilities agreed not to build any more purely oil-fired power stations (if coal units are not acceptable, they should at least be dual-purpose). But if Western Europe and Japan are to import

more coal, measures will also be needed to develop a stable coal trade in which customers are not going to be subject to sudden price fluctuations. This presupposes long-term supply contracts, participations by utilities in coal mines, joint venture participations in coal transport and the preparation of ports to export and import the coal. It also presupposes greater exchanges of information on coal-trading problems as a whole.

Alternative

But if coal is really to become a serious alternative to oil and gas, or even nuclear, some way must be found to meet environmental objections to strip-mining, a sufficiently cheap technique developed to remove sulphur from coal—through stack gas scrubbing or fluidized bed combustion—and greater research carried out on gasification or liquefaction of coal. For the moment synthetic oil and gas produced from coal cost at least twice as much as the products they are trying to replace, but when used directly for heating, they are not much more expensive than electricity. South Africa is already building its second coal liquefaction unit and in Europe and the United States research is being carried out into the possibility of producing coal gas within the mines themselves.

So long as coal's main energy role is limited to electricity, it can be no real answer to the world's future energy requirements. It is true that electricity may eventually account for as much as 50 per cent of energy consumed compared to only 10 to 20 per cent today, but coal will probably be only one of several energy sources used for steam generation. If its main rivals today are oil, gas and conventional nuclear power, tomorrow it could be fast-breeder, solar, geothermal and other new energies. But if coal is really to take over the position currently held by oil and gas, liquefaction and gasification will be essential. Only then will coal become an energy source which can be universally applied, cheaply transported and pollution free. Oil and gas would no longer be needed and even the nuclear commitment could then be reconsidered.

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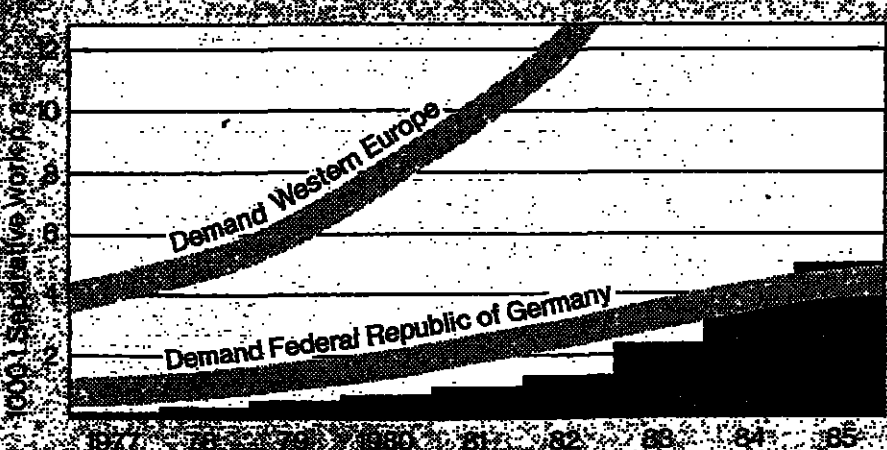
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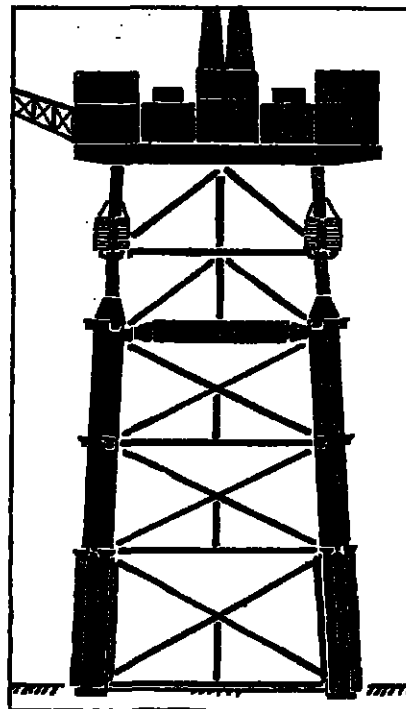
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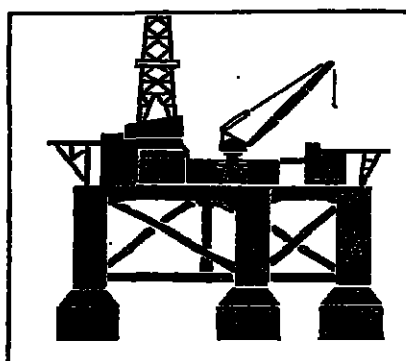
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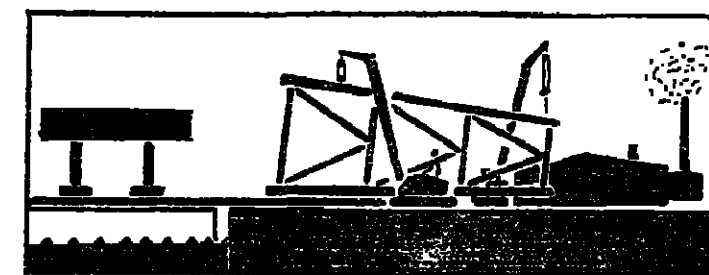
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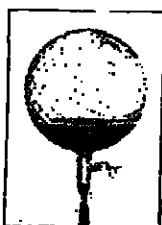
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مكتبة الأمل



Gas Has Big Potential, But Transport Is Costly

LONDON (IHT).—It is only since World War II that natural gas has come to be used as a fuel on any real scale. Even by the 1973 energy crisis, in Japan for instance, gas use was minute. But by then gas had already become very important in the United States, where it had come to provide almost one-third of total energy supplies. In Western Europe the ratio was much smaller—around 10 per cent—but was growing fast, and giving rise to hopes of a large place for gas in Europe's future energy supplies.

In the United States gas came up with the oil in the big new fields in Texas and neighboring states. After a while, instead of being flared, it began to be gathered for use as a fuel in the surrounding area. But it was only after the war that compressors, pipeline materials and other aspects of the technology of long-distance gas transmission had progressed to the stage where the gas could be piped to the distant Northern states in large volume. Meanwhile gas from the Alaskan fields in Canada found a market across the border in the American Midwest.

In Europe the age of natural gas was inaugurated after the war when Agip, with Enrico Mattei at its head, found gas in the Po Valley, and so established the basis of what soon became the formidable Italian state oil and gas organization, ENI. Later there came the substantial deposits at Lacq in the French Pyrenees and then the enormous field at Groningen in northern Holland.

Groningen

The Groningen field was important for three reasons. First its great size: some 3,000 billion cubic meters, or the equivalent of some 125 billion barrels of oil. By way of comparison, the proved reserves in the entire British sector of the North Sea were most recently estimated at 10 billion barrels. Secondly it was decided that roughly half of the Groningen gas would be exported to other European countries, at a time when international trade in gas was minuscule and in many European countries national gas distribution systems were rudimentary or non-existent. Thirdly, it was the Groningen discov-

ery, combined with small finds in British Yorkshire, that aroused suspicions that large gas reserves might lie in a belt between the two, and so precipitated the search for gas or oil, under the North Sea, beginning in the early 1960s.

Gas was soon found in the British sector, though ironically the geology proved quite different from that of Groningen. Later oil and gas were found together at the southwesterly tip of the Norwegian sector, called the Ekofisk field, and the search moved northwards, where large volumes of oil were soon discovered, with associated gas in many cases, plus some non-associated gas fields, of which the largest so far is the Anglo-Norwegian field of Frigg.

Groningen gas production is now approaching its peak, with over half the annual output going to West Germany, France, Belgium-Luxembourg, Switzerland and Italy. France and Italy are still drawing on their deposits—in Lacq, and in the Po Valley and elsewhere in Italy. Britain has its production from the southern North Sea fields. West Germany has a very large number of relatively small gas fields, with the bulk of production coming from the region close to the Dutch border and not far from Groningen. In 1975 OECD-Europe consumed gas equivalent in heat value to just over 150 million metric tons of oil, or some 13 per cent of its total energy requirements, with Britain, Holland and West Germany each accounting for around 20 per cent of total consumption.

During the next five years Europe's gas supplies will increase substantially, and by 1980 gas will probably account for some 16 to 20 per cent of total energy consumption; but after 1980, gas consumption may grow slightly more slowly than the total energy market. During the next five years the Ekofisk and Frigg fields will come on stream, with Ekofisk gas going to West Germany, France, Belgium and Holland, and Frigg gas to Britain. The flow from the British North Sea, and from West Germany and Italy will increase. But equally important is a new factor. Gas imported from outside OECD-Europe will treble. By 1980 these imports may represent about one-sixth of all OECD-Eu-

rope's gas consumption. And between 1980 and 1985 these gas imports may double again, while Europe's own gas production will probably remain about constant.

After 1985 imports may become even more important. Production will be declining at Lacq, Groningen, the British North Sea and some of the older West German and Italian fields. New European gas supplies may be forthcoming from Statfjord and other fields in the Norwegian sector, plus, probably, others yet to be found there. But otherwise, to replace its declining domestic production, Europe will need to look outside its own borders. It is already doing so.

Europe's first external gas supplier was Algeria. Oddly enough, the first recipient of Algerian gas was Britain. The world's first liquefied natural gas (LNG) contract entailed the supply of some 1 million tons a year of equivalent of liquefied gas to Canvey Island in the Thames estuary starting in 1968 and, needless to say, was negotiated before gas was discovered under the North Sea. The gas still arrives: LNG is useful to the British Gas Corporation; stored in liquid form (at minus 161 degrees centigrade), it occupies little space and can be regasified and used to meet demand peaks.

LNG

After the Canvey contract two contracts to France soon followed. LNG tankers now also bring Algerian gas to Le Havre and to Fos, Marseilles. Libyan LNG, from 1972 onwards, began to arrive in Italy, and then also Spain. Algeria also supplies small volumes to the American East Coast, while LNG from the south-west coast of Alaska has been shipped to Japan since 1970. The world's largest operating LNG trade began in 1973, when Shell and Mitsubishi began to supply Japan from Brunei, where the rate of supply, now on peak at some 6.7 million tons of oil equivalent a year, makes Brunei the world's largest LNG exporter today.

LNG trade will grow rapidly in volume over the next ten years. Next year Indonesia will launch the world's largest LNG project so far when its deliveries

Now almost all international gas prices are linked to oil prices. This however leaves the producer exposed to the risk of a fall in price, a risk his bankers would look on with disapproval. In turn, producers have tried to limit their downside risk by inserting floor prices into their contracts. In theory the gas buyer is then left in a painful 'heads you win, tails I lose' situation.

begin to Japan. Malaysia will become an exporter on a slightly smaller scale in 1981: Abu Dhabi (also to Japan), on a small scale next year, and with a larger contract under discussion, Australia, possibly in the early 1980s to the U.S. West Coast, Japan or both. Above all, new Algerian trades to Europe and the U.S. East Coast will go into operation so that Algeria should again be the world's largest LNG exporter by 1980.

But Algeria's gas exports to the West will be equalled by piped supplies from the Soviet Union. Indeed, for Europe, Soviet supplies will be much bigger: besides its supplies to Eastern Europe, it is under contract to supply Western Europe with some 23 million tons of oil equivalent by 1980, making it almost as large a supplier as Norway. And supplies from the Soviet Union should increase further after 1980. Developing distant Soviet gas fields requires Western steel pipe, compressors and other equipment: payment can be made by gas.

And, since the swap agreement between Iran, the Soviet Union and a West European group of European buyers, it looks increasingly likely that much of Iran's large available gas deposits will in fact be sold to the Soviet Union, as gas from Afghanistan and Iran has been sold on a small scale already since 1968

and 1971. This will release other, though perhaps slightly smaller and more expensive, volumes of the Soviet Union's own gas for Western Europe. Other Iranian gas will go to Japan as LNG, and possibly some to the United States.

What looks distinctly less feasible now are the two grandiose Soviet projects for exporting LNG to the United States and Japan, which came to the fore during the détente euphoria of 1973. For a start the Soviet Union has no LNG technology: Western firms would have to construct the facilities, and in unfavorable conditions. And not only are the marine distances considerable (Burmah-U.S. East Coast, Volga-U.S. West Coast), but for both the west Siberian and east Siberian projects 2,500-3,000-kilometer pipelines to the coast would be needed, too, to be built in conditions not altogether different from that of the Alaskan pipeline, which is a mere 1,300 kilometers. The east Siberian reserves have not even been properly proved yet. And it seems more likely now that the west Siberian ones will all be piped to Europe instead, or consumed domestically.

Pipelines

Pipelines are gaining ground at the expense of LNG everywhere. Although prices have yet to be

agreed, and some technical problems still to be solved, Italy and Algeria now look set to go ahead with their undersea gas pipeline project via Tunisia and Sicily. Similarly France plans to take Algerian gas via a large pipeline crossing over to Spain from either the Algerian or Moroccan coast, and then up into France. The most important LNG pipeline choice now pending concerns Alaskan gas, and whether to move it via a Canadian pipeline, a pipeline through Alaska and Canada, or an all-Alaska pipeline and then as LNG down to the West Coast. The U.S. administration will probably take a decision next year, but with non-economic considerations included in the calculations.

Despite the large number of LNG tankers on order—42 ships at end-June, against an existing fleet of 29 ships—there is little prospect of an LNG market developing, with buyers switching around between various sellers and owning and chartering tonnage, as happens in the oil market. Gas is just too expensive to move. Even moving it from Algeria to Northern Europe involves freight, liquefaction and regasification costs that absorb half the value of the gas in northern Europe. Where the distances are longer, the proportion of the final value that is left for the producer is even smaller.

The truth is that it is only the huge jump in oil prices in 1973-74 that has made feasible many of the LNG projects under discussion now. Gas prices have followed oil prices up so that it is now feasible to consider, for instance, liquefying natural gas at the Gulf and moving it to Japan, whereas previously nothing could be done with it except to flare it off. Now, besides LNG, gas producers are considering the "all more complex processes of converting gas into ammonia and possibly (the next stage) into petrochemical fertilizers, provided they overcome problems of marketing the ultimate product and constructing such complicated plants in areas lacking in infrastructure of all kinds. Another possibility is to convert the gas into methanol, a fuel that can be shipped in ordinary tankers (not the refrigerated LNG ones) but is more expensive to produce.

Even so, despite the jump in oil prices, forecasts of 1980 and 1985 LNG trade from observers like H.P. Drewry (shipping consultants) of London are less rosy now than before the oil price jumps. Pipelines are looking increasingly attractive; the costs of LNG plants and tankers have soared too; technical problems have slowed the building of some of the new large-scale projects; and perhaps most important, there is growing recognition of the inherent economic and financial problems in long-distance gas trade.

Huge capital investment is required. For instance, the planned LNG plant in Malaysia (Sarawak) is likely to cost \$1 billion. LNG tankers now on order come out at around \$180 million each, and will cost \$200,000 a day to operate. Such investments make sense only if oil prices stay above a certain level. The old-style fixed-price gas contracts gave security to the producer, enabling him to raise loans for his plant and ships, or pipeline. The risk that oil prices might fall was ostensibly borne by those who bought the gas on long-term contract at fixed prices. But with the jump in oil prices, most of these old contracts have been renegotiated, including the Soviet and Dutch pipeline contracts and some of the British North Sea ones, as well as virtually all LNG ones.

Now almost all international gas prices are linked to oil prices. This however leaves the producer exposed to the risk of a fall in price, a risk his bankers would look on with disapproval. In turn, producers have tried to limit their downside risk by inserting floor prices into their contracts. In theory the gas buyer is then left in a painful 'heads you win, tails I lose' situation, having to pay more for his gas if oil prices rise, but stuck with expensive and over-priced gas if they fell below the agreed contract floor-price, which may itself be indexed against normal inflation.

Flexible Terms

Because such large sums of money are involved, buyers and sellers bind themselves tightly together by contract. Although piped gas has been swapped (for

instance Soviet gas due was swapped with Dutch to Italy), long-term look likely to stay the international gas trade, the financial terms are increasingly complicated flexible. Gas prices in the realities as they main one of which is of oil itself, which is much the gas is worth consuming country. Q and sellers are price-is price-makers. But in the oil price, even the will become worth developing ever more remote regions.

In Japan natural gas is in the infancy. There are few problems acute, as is in great demand, as other non-pollutant hydrocarbons like liquefied gas and naphtha. But it is likely to rise to be around 10 per cent of total use. In the United States production is in decline. Alaskan supplies will do slow the erosion of the gas in the American tank.

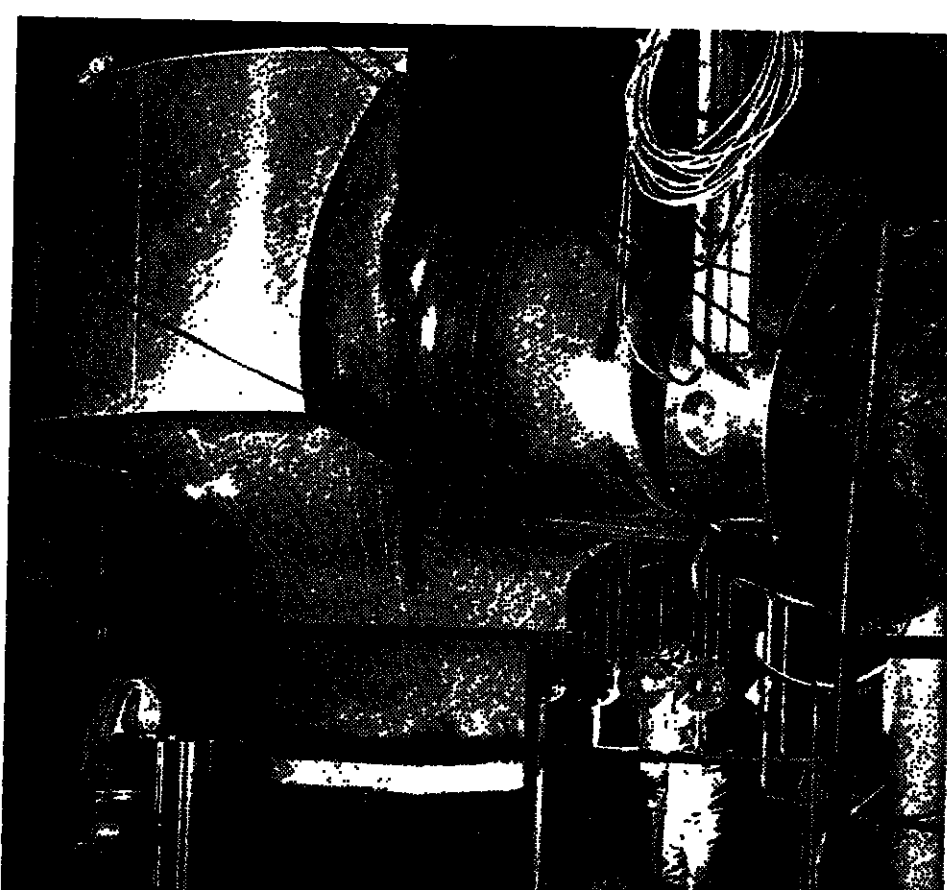
It is in Europe that of the gas industry is midst of its most rapid transformation. From the posed of a large number local gas distribution, a ing to urban households was originally no more by-product of the coal in European gas companies switched from town gas much more powerful all of natural gas distribution has become an attractive important fuel to a wide of types of customer on local scale, and inter operating on an international scale in collaboration with consuming countries and ing countries located in of miles away in multi-dollar projects. Nevertheless, the enormous reserves available gas in the west these look unlikely to be play anything like a role in world energy as oil have done in the past. For a successor to oil, it will have to look elsewhere.

We supply the pumps



The main and auxiliary cycles for the energy conversion processes in thermal power stations require pumps which vary widely in design, construction and size.

KSB are able to offer a comprehensive pump programme for all applications.



We supply the pumps for some of the largest nuclear and fossil fuel power stations at present being commissioned or under construction.

The technical quality level and reliability of our pumps are based on many decades of experience, intensive research and development and modern test methods combined with extensive quality control.

In 1905, KSB developed a ring section boiler feed pump for a discharge pressure of 40 bar.

In 1955, KSB supplied pumps for the first European research reactors.

Today, KSB pumps are operating in nuclear stations with a variety of reactor systems.

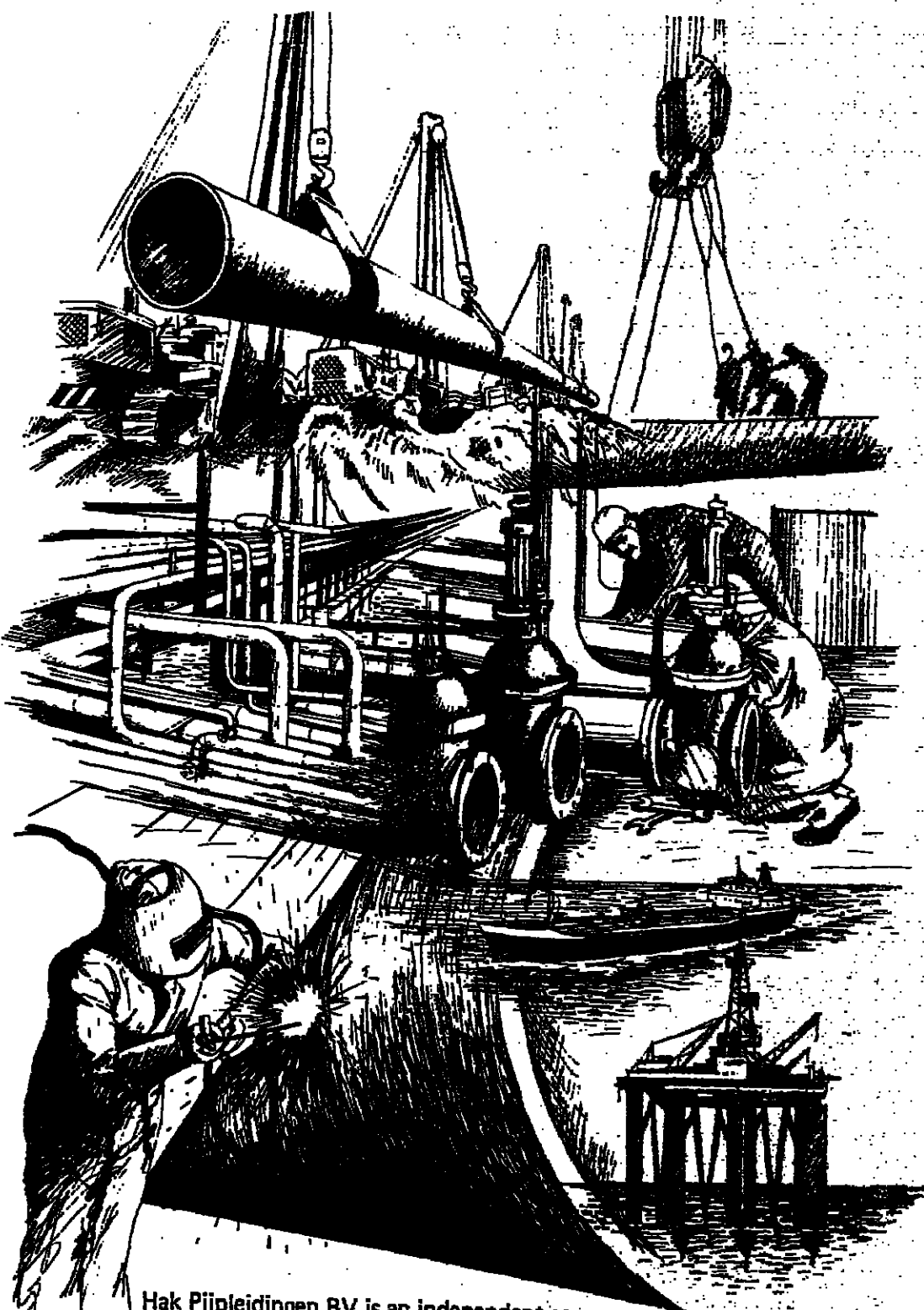
KSB provide reliable pump technology for all power station cycles.

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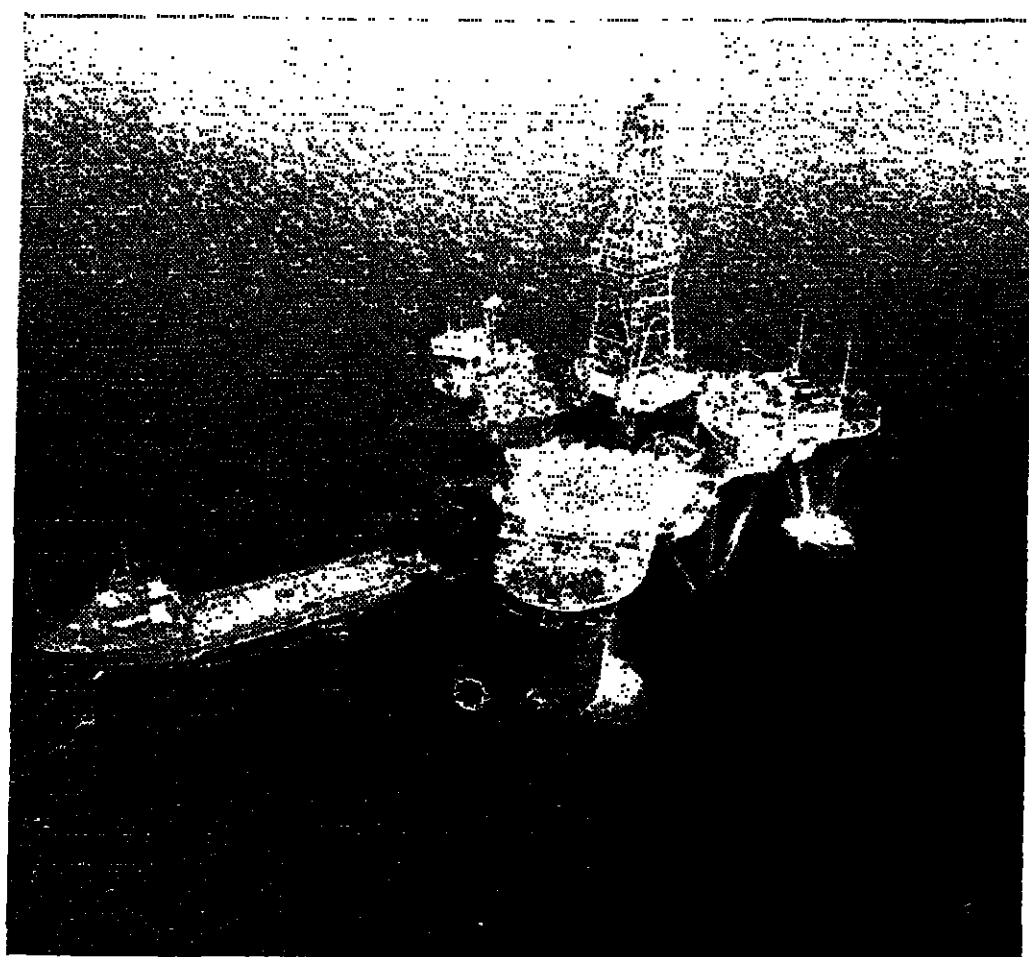
KSB pumps



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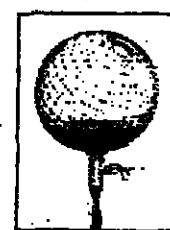
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Eni's role in Italy's energy supply

Under the National Energy Plan, it is ENI's task to play a predominant role in the supply of energy to the country. Today, the ENI Group provides over 40% of the country's oil and natural gas requirements. This achievement is the result of twenty years' activity by Agip in the exploration and development of mineral resources both in Italy and abroad. After the second world war, the role of oil, as compared with the more traditional energy sources, dominated the international market. This factor applied with particular force to Italy, due to the shortage of its own alternatives to oil. This situation led ENI into making an all out effort in exploration for oil and gas in order to become as self-sufficient as possible in its own crude supplies for the domestic market. Today, oil covers 75% of the country's total energy requirement. On land, ENI's exploration efforts in Italy have covered all areas wherever the possibility of a discovery existed. This approach also applied to territorial waters and the continental shelf. Since 1968 the outstanding progress made in geophysical techniques and equipment has

allowed ENI to develop a new exploration programme starting with the Po Valley, in order to extend its knowledge to the older and deeper formations. Exploration has been carried out at depths of over 5,000 metres on land, whilst offshore drilling has taken place in water depths of over 200 metres. Natural gas reserves in Italy have now been proved at nearly 200 billion cubic metres. Total crude production in 1975, through various joint ventures, amounted to 45 million tons. Of this 14.4 million tons is ENI's quota, either through direct participation or through acquisition. New discoveries have been made in Indonesia, the North Sea, Congo and Trinidad. At the end of 1975 ENI companies in Italy and abroad held exploration permits and development concessions covering nearly one million sq. km. ENI has been involved for some time in the nuclear fuel cycle. This includes the acquisition of natural uranium, its enrichment, the supply of fuel elements, the reprocessing of irradiated fuels, and the relative auxiliary services such as storage and transport.



Environment Vs. Economic Growth

PARIS (IHT).—It was well before the oil crisis that environmental considerations began to play a role in the energy field. As the world became richer, people began to question whether it was worth sacrificing a certain quality of life just to assure a certain quantity of wealth. Energy was a major factor in economic growth, but all too often its production involved serious environmental and ecological damage and the emissions of chemicals which were unsightly and damaging to health. So it was hardly surprising that energy producers were a major target of environmentalist feelings.

Opposition was raised to the flooding of valleys for hydroelectric schemes, to the scattering of landscapes through strip-mining and to the oil-pollution threats posed by offshore activities and tanker transport, to the use of rivers for coal-mining operations and nuclear power stations, to sulphur dioxide and particulate emissions from oil refineries, coal and oil plants, to the nitrogen oxide fumes from cars and trucks and to the radioactive dangers of nuclear power plants. Developing countries might still feel that pollution was a reasonable price to pay for higher economic growth, but for an increasing number of industrialized countries that price was becoming too high.

However, since 1973 the position of the environmentalists has become harder to defend. With the increase in energy prices it has become much harder to absorb the extra cost of meeting environmentalist requirements and with economic growth well below the pre-crisis era the choice may no longer be between a polluted society with high growth and a non-polluted one with a slightly lower one, but between a polluted society with low growth and a non-polluted one with no growth at all. For not only are the environmentalist groups making it extremely difficult for consumers countries to develop their own indigenous energy resources and thereby reduce their dependence on imported oil, but they are threatening to create an eventual energy shortage, which could reduce growth altogether. During the last two years the dilemmas have brought a touch of reality to the academic debate between

growth at all costs and no growth at all. It would be a pity if in their concern for the quality of life environmentalists placed such obstacles on economic growth that the very basis for that life-style were destroyed.

Strong Attack

The country which could play a key role in developing indigenous energy resources happens to be the place where environmentalist feeling is the strongest. Already before the energy crisis U.S. environmentalists were blocking attempts to build oil refineries and oil ports in the east of the United States, had forced the government to introduce tough controls on automobile emissions, had held up the award of offshore exploration concessions and posed problems for utilities and coal companies; but since 1973 they have slowed down development of the Alaskan oil fields, prevented the opening of strip-mines in the west of the United States and brought the country's nuclear program to a virtual standstill.

The U.S. example has been taken up quickly by other countries, especially those with a high standard of living. In Sweden it is proving difficult to obtain authorization for new hydroelectric schemes and the nuclear program is under fire. In Norway North Sea development is coming under strong attack. In Britain nuclear fuel enrichment programs and fast-breeder reactors are a subject of controversy. In France, West Germany and Japan ambitious nuclear expansion programs are being subject to increasing harassment, while in the Benelux countries and Denmark they have been halted altogether.

It would be unfair to place all the blame for delays in energy development on the environmentalists. In many fields governments have in fact relaxed environmentalist regulations in response to the economic recession, and slowdowns in energy programs have been due more to the flattening out of energy demand growth, financing problems and the failure of governments to define their energy policies than to any environmentalist pressures. But as the economic situation begins to improve there is a danger that excessive concern for environmental pro-

tection could place consumer countries in a dangerously vulnerable energy situation.

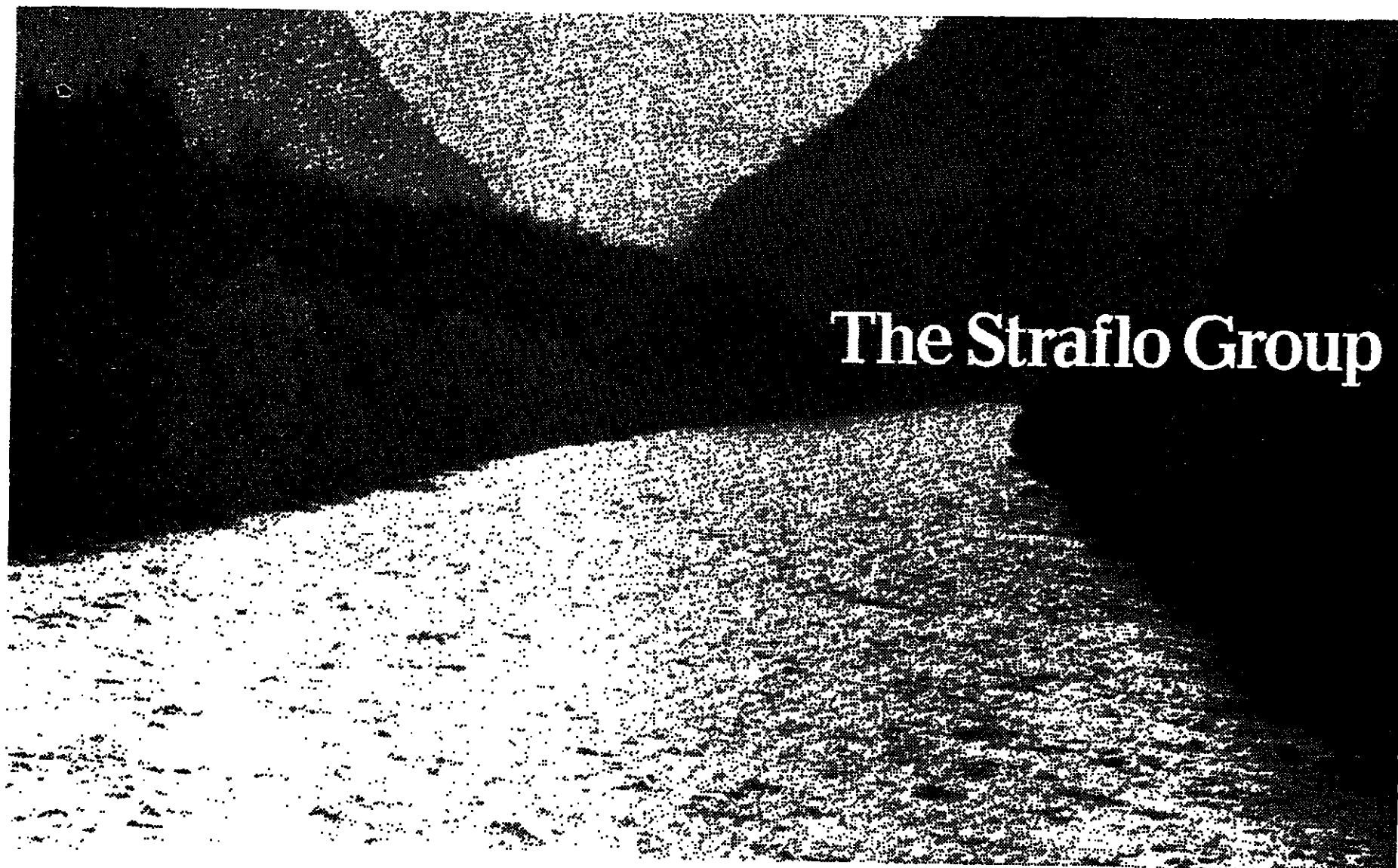
Of course, it is extremely healthy that the general public is ready to question energy choices. Many people would claim that energy decisions are really too important to be left to the energy experts. Experience has shown that environmental regulations do not necessarily add much cost to energy production and that in some cases the application of such regulations actually forces energy producers to adopt more efficient methods. It is arguable that industrialized countries can still look forward to economic expansion, even with higher energy costs, so long as wealth is redistributed. With no real prospect of an energy shortfall for another thirty or forty years, there may well be a case for paying more now for energy and thereby speed up the development of new energies such as solar rather than rush into the development of conventional energy sources like coal or nuclear which could result in irreparable damage to the environment. There are doubts about nuclear, any sacrifice might be worth accepting to avoid a nuclear holocaust.

But if the debate concerning environment and energy is a healthy one, it is essential that it be well-informed and rational. Unfortunately this is not always the case. Until a few years ago environmentalists could still be dismissed as individualistic cranks who were just not prepared to pay the price of living in society. In some cases this dismissal was justified in that many members of the movement merely wanted to return to a more simple pre-industrial society.

But today governments and energy producers are being faced by an increasingly powerful movement which is taking on a radical political character. As a result, it is becoming increasingly difficult to distinguish between a genuine protest over environmental factors on the one hand and general opposition to the government in power and to giant corporations—whether it be from people who resist change or are seeking it. The danger is that energy decisions may now be taken for the wrong reasons.

Governments and producers have largely to blame if the present has arisen. It is by no means so little attention legitimate environmentalists of the 1960s the subject of such a day. It is because of that they have still debate or withheld it that opposition movement rallied to the environmental cause. But it is distinct how opposition parties their turn arouse fears in the public mind about the cost implications environmentalists deny the high-minded private interests are at stake. The objects to the extensive ownership, but will go his own way, local will not accept a move nearby, but favor nuclear power. (The are concerned about it) of life, but oppose the growth required to age others. All too often mentalist lobbying a beginning of a bargain case aimed at obtaining compensation for individuals concerned.

It would be surprising debate on energy were disinterested than that other issue affecting it is also only natural that cratic discussion of choices will result in decisions which would madden any to and in decisions which horrify a scientist, but the price to be paid, democracy. Rather than the general public is capable of understanding environmental energy therefore not worthy of information, government industry and even the should start treating a responsible human being in this way will make stop being a political be the right balance between development and economic established. For in actual economic terms a balance always be found. It is the political level that has to be expressed in terms.



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normally serviced by Kaplan and Bulb turbines. This is expected to result in total savings of up to 30%.

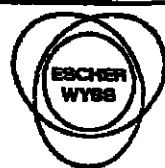
The water passage of the STRAFLO® turbine is positioned horizontal or near horizontal, and the turbine and generator are combined in a single plane perpendicular to the water passage axis. This replaces the complicated structures of the older, vertically-installed sets. Also, the surface structures can be reduced to a relatively small weir, incorporating the powerhouse. The new STRAFLO® turbine gives the world vast new energy sources through making low-head installation practicable in thousands of smaller waterways.

Suddenly, exploitation of hydro-electricity has become cheaper, more efficient and less environmentally obtrusive than ever before.

The STRAFLO® Group is formed with the object of furthering the economic development of river and tidal energy resources. This will be achieved by employing straightforward technology embodied in the STRAFLO® turbine designed by Escher Wyss in close co-operation with renowned turbine and generator manufacturers and civil engineers.

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PARTNERS IN PROGRESS



Profit Rises Per Cent U.K. Firm

**or Companies
ort Increases**

LONDON, Dec. 8 (AP-DJ)—The first half ended in the company reported a profit rise of 38.8 per cent.

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FINANCIAL NEWS AND NOTES

Creusot-Loire to Lead in Reactors

Creusot-Loire, a unit of the Empain-Schneider Group, is to become the leader among French nuclear reactor manufacturers. The company will have a 51-per-cent stake in the new company, which is in charge of developing the high-speed reactors. The French Atomic Energy Commission will have a 34-per-cent stake, while Alsthom is to hold 15 per cent. In compensation, Alsthom is to increase its cooperation with Creusot-Loire in the field of hydroelectric turbines. Alsthom-Atlantique recently acquired the turbo-alternator division of Cie. Electromecanique, a unit of Brown Boveri of Switzerland.

Toyo Kogyo Sees Pre-Tax Profit

Toyo Kogyo expects to report a profit before tax and special items of over 3 billion yen (about \$10 million) for the fiscal year ended Oct. 31, compared with the deficit of 17.33 billion yen in the preceding fiscal year. A company spokesman says sales are expected to total 590 billion yen, an increase of 18 per cent over the 496.4 billion of the previous fiscal year. The company sold 721,000 motor vehicles, an 11.8-per-cent increase, despite an 18-per-cent decline in domestic sales to 274,000 vehicles. This was more than offset by a 42-per-cent increase in export sales to 447,000 vehicles.

AEG Hopes to Pay Dividend in '77

AEG Telefunken still hopes to pay a dividend for 1977 but does not intend to make any pay-

out from reserves, says managing board chairman Walter Cipa. He says the company's performance this year has improved considerably from 1975 but is still not satisfactory. AEG's financing means are still ample, he adds, as credit lines totalling 1.8 billion deutsche marks, of which 600 million DM is long term, have not been touched yet. AEG has already said it does not plan a dividend for this year. Last year the parent company lost 108.8 million DM and Mr. Cipa says it is completely open whether second-half earnings this year will compensate for first-half losses.

FPC Staff Backs Arctic Gas Pipeline

The U.S. Federal Power Commission staff has recommended acceptance of the Arctic Gas project's plan for a \$9-billion pipeline across Canada to move natural gas from the Alaskan North Slope to U.S. markets. A staff brief called the 15-company consortium's proposal "vastly superior" to competing proposals by El Paso and Northwest Energy Co. El Paso wanted to build a line across Alaska parallel to the Trans-Alaska pipeline, liquefy the gas and transport it by tanker to a West Coast port. The other 48 states, Northwest proposed a pipeline route along the Alaska highway to British Columbia. The FPC staff made its recommendations in a brief filed with an FPC administrative law judge now considering the three proposals. A decision is due next month, after which the commission is expected to make a recommendation to President Jimmy Carter by May 1. The president is required by law to select a route by Sept. 1 and propose it to Congress, which would have 60 days to ratify the decision.

Rebates of Indirect Taxes at Issue

U.S. Court Suits Threaten Trading Rules

By Edwin L. Dale Jr.

WASHINGTON, Dec. 8 (NYT)—Several time bombs in the foreign trade field are ticking quietly away, timed to explode during or shortly after the transition to a new presidency.

The one that contains the greatest potential disruptive effects on U.S. importers and exporters, on U.S. relations with Japan and other industrial countries, and on trade policy generally is the least known. The bomb is ticking in a New York court, and a decision could come at any time.

At issue is whether the Japanese practice, in effect for years, of rebating for exports a "consumption tax," which is much the same as a manufacturer's excise tax, amounts to a "bounty or grant" within the meaning of the 80-year-old U.S. countervailing duty law.

Suit by Zenith

Zenith Radio Co., which has been struggling against Japanese competitors in various ways over the years, has filed suit, claiming that the tax rebate is indeed a subsidy and, therefore, must be offset by a special countervailing duty.

The suit covers all consumer electronic products—television sets, radios, citizens band radios, tape recorders, stereo sets. Imports from Japan are now running at a value of \$1.5 billion a year.

Whatever the customs court may find, the case is almost certain to be appealed by Zenith or the government. But there is a major, though little known, problem.

If the court, as some government trade officials fear, rules in favor of Zenith, and assuming the government appeals, there will be an immediate "suspension of liquidation" of duties on the affected products. This means that importers will be unable to settle the final duties they will owe, pending the long process of appeal.

They will not know what duty will be eventually payable. The risks will be so great that some importers say they will simply stop buying these products.

This would be disruptive enough. But the implications are even greater.

For 30 years the international trading rules established by the General Agreement on Tariffs and Trade have held that rebates of indirect taxes such as the Japanese tax—as distinct from direct income or profits taxes—are not subsidies. If the United States now unilaterally declares that they are subsidies, much

more than Japanese television sets will be involved.

"This case is a real keeper," says Peter Suchman, deputy assistant secretary of the Treasury in charge of trade matters. "It has more potential for harm to the international trading system than all the rest of the trade cases put together."

Pending in the same customs court is another suit, filed by United States Steel Corp., alleging that the longstanding rebate on exports by European Economic Community countries of their "value-added" tax also amounts to a subsidy within the meaning of the countervailing duty law.

If the court finds affirmatively, steel imports from Europe worth about \$2 billion annually would be immediately affected, with the same problem of "suspension of liquidation" of duties. Eventually all manufactured goods exported from Europe could feel the impact and the world's trading rules would be thrown into confusion.

Escape Clause' Petitions

Apart from the cases in the Customs Court, the U.S. International Trade Commission is moving toward three major decisions in "escape-clause" petitions under the 1974 trade law. While actual cases of import restraint under this and other provisions of the law have been very few so far, the chief one being steel, less and other specialty steels, the three pending cases pose a new test of whether the United States will move in a restrictive

direction. Viewed another way, they pose a test of whether the 1974 law is strong enough to show damage from imports.

The cases are shoes, color television sets and sugar. The commission is considering shoes for a second time, under orders from the Senate Finance Committee. Last year it unanimously found that imports were damaging the domestic industry but, because its members could not agree on the relief to be provided, President Ford was able to deny any relief and Congress could not override his decision.

The new system, ordered by the Financial Accounting Standards Board (FASB), has necessitated adjustments in the way U.S. companies convert into dollars and report results of their foreign operations.

Although the ruling became effective last Jan. 1, it has a retroactive effective cause earnings for earlier periods, when presented in financial statements, must be restated as if the ruling were in effect at that time.

As a result, the accounting adjustments have caused profit comparisons with year-earlier figures to differ widely from what they would have been without the FASB ruling.

Quarterly earnings reports have been bouncing about unpredictably ever since Statement 8, as the FASB ruling is called, took effect.

"It will be years before anybody can work with a comparative financial statement with any degree of certainty again," grumbles Herbert Knorr, executive vice-president of International Telephone & Telegraph Corp.

Charles Allen, vice-president and chief financial officer of TRW Inc., says, "The profit-and-loss statement now depends to a large degree on the political factors that go into the various currency revaluations in foreign countries."

Many companies say their worst problems come from trying to analysts and investors that a big currency conversion loss does not mean they are on the brink of bankruptcy, and a big gain does not mean they are wiping out the competition.

Firms' Strategy
As a result of the confusion, companies are beginning to try to smooth out the wild earnings swings that they say arise from Statement 8. The main strategy is to balance the amounts of fixed assets, such as plant and equipment, with liabilities, such as foreign bank borrowings. When these are in balance within a country, no translation gain or loss shows up on the bottom line. Multinationals have always tried to keep this balance, but

Simon Seen Returning to Salomon Bros.

**Treasury Chief Says
Decision Not Yet Made**

By Philip Shabecoff

WASHINGTON, Dec. 8 (NYT)—Treasury Secretary William Simon is planning to return to Salomon Brothers, the New York investment banking firm he left in January, 1973, to join the Nixon government, friends of Mr. Simon within the administration said yesterday.

Asked about the report, Mr. Simon said by telephone, "I've made no commitment. It would not be proper for me to even have any substantive discussions until I leave Washington. I can honestly say I have not made a decision."

William Salomon, managing partner of Salomon Brothers, said that he hoped Mr. Simon would rejoin the firm. "We want him back," Mr. Salomon said in a telephone interview, "but we've had no discussions."

Mr. Salomon said if Mr. Simon did return to the firm it would be as "an important partner."

"Because he has been Secretary of the Treasury, he obviously would be more important to us than he was before," Mr. Salomon said.

Mr. Simon, 49 years old, also plans to remain active in public affairs, according to his friends. His name has been mentioned as a possible candidate for the chairmanship of the Republican National Committee. He has also discussed a possible run at the presidency in 1980 with some members of the Republican party, according to an informed Treasury source.

Mr. Simon was one of seven partners on the executive committee of Salomon Brothers when he was tapped by former President Nixon to become deputy Treasury secretary. At the time, he was in charge of the firm's government and municipal securities department and, according to published reports, earning \$2 million to \$3 million a year.

'Straddle' Trades Labeled Uncompetitive N.Y. After-Hours Trading In Silver Hit by U.S. Unit

NEW YORK, Dec. 8 (AP-DJ).

The days of "straddle" trading silver futures on the Commodity Exchange here after normal market hours may be numbered.

Members of the Commodity Futures Trading Commission reviewed yesterday a report prepared by the staff of the federal agency's trading and markets division that says the practice "does not appear to meet the standard of an open and competitive trading method."

A "straddle" trade (also called a "spread" or a "switch" trade) is simultaneously buying and selling futures contracts in the same commodity with different expiration dates. It often is used by traders as a means of deferring or reducing their income taxes.

The Commodity Exchange silver-futures market normally ceases trading at 1915 GMT. Straddle trading frequently extends well beyond that time. On Nov. 15, for instance, straddle trading continued until nearly 2300 GMT.

The commission, in effect, gave its staff authority to meet and discuss the findings with exchange officials, who then will decide whether the practice should be stopped or modified.

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market on the Chicago Board of Trade, however.

The study found that although the volume of after-hours straddle trading has not been substantial, it increased significantly in the fourth quarter last year, accounting for as much as 36 per cent of the total volume of straddle trades in the months when trading for tax purposes usually occurs.

The staff's study also noted that professional traders do not have to enter their straddle orders before the market closes as required for brokers' customers; after-hours straddles do not have to conform with the price differentials between futures delivery months that are established during the session, and that, in many cases, these price differentials are prearranged.

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Prices Rise On Wall St. After Slipping

**Investors Said Seeking
Lower-Priced Issues**

NEW YORK, Dec. 8 (NYT)—Prices advanced again on the New York Stock Exchange today, overcoming some weakness early in the session as a broad market advance in the near future.

Analysts said investors continue to seek out stocks whose yields have improved relative to bonds due to falling interest rates.

After being in the red most of the day, and down about 4 points by noon, the Dow Jones industrial index closed up 2.49 at 963.18. It was down 1.5 at 3 o'clock.

Volume totaled 245.6 million shares, compared with 26.1 million yesterday. Advances outpaced declines by about 970 to about 490.

Paul Bernstein, of Drew & Bernham, said investors have turned to lower-priced issues because of doubts about the ability of blue chips to mount another market advance in the near future.

Analysts have lately been "marking down" their estimates on basic industry issues, he said.

Mr. Bernstein also said investors have shied away from growth issues because of worries that currency devaluations and lagging economies outside the United States will limit their earnings.

Electronic issues were mostly higher. IBM rose 2 1/4 to 373. Texas Instruments 1 1/4 to 268. Digital Equipment 1 1/4 to 54 3/8, and Motorola 1 1/2 to 51 3/4, but Burroughs lost 1 1/4 to 88 1/2.

Active McDonald's lost 2 1/4 to 54 7/8 and Sony tumbled on 1 1/8 to 9 1/8. General Motors, also active, rose 1 1/8 to 73.

Holiday Inns picked up 1 1/8 to 13 1/8 in active trading and Ramada Inns, also active, rose 5/8 to 4 1/4.

Bendis lost 1 3/4 to 42 1/2. It terminated its proposed acquisition of Ex-Cello-O Corp., which lost 2 1/4 to 23 1/4.

**U.K. Mart Ends
Options Project**

LONDON, Dec. 8 (AP-DJ)—The London Stock Exchange announced today that it has decided to cease work "for the time being" on the possible establishment of trading in stock options.

Ch'g

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Kuwait Foreign Trading, Contracting and Investment Co. (S.A.K.)		Mellon Bank, N.A.
	Banque Arabe et Internationale d'Investissement (B.A.I.I.)	
National Bank of Bahrain	Bank of Credit and Commerce International (Overseas) Ltd.	The British Bank of the Middle East
Banque du Caire	The Gulf Bank KSC	B.A.I.I. (Middle East) Inc.
FRAB Bank International	Banque Intercontinentale Arabe	Banque Nationale de Paris <i>(Morocco Branch)</i>
European Arab Bank (Brussels) S.A.	Libyan Arab Foreign Bank	Samuel Montagu & Co. <i>Limited</i>
J. Henry Schroder Wagg & Co. <i>Limited</i>	Texas Commerce Bank	UBAF Limited
Algemene Bank Nederland N.V.	The Bank of Kuwait & the Middle East, K.S.C.	Alahli Bank of Kuwait (K.S.C.)
The Bank of Tokyo (Luxembourg) S.A.	The Commercial Bank of Qatar <i>Limited (Q.S.C.)</i>	Fuji Bank (Schweiz) AG
The Fuji Bank and Trust Company	IBJ Finance Company (Hong Kong) Ltd.	Saudi International Bank <i>Al-Bank Al-Saudi Al-Ahrami Limited</i>
Union de Banques Arabes et Européennes—U.B.A.E.	UBAN—Arab Japanese Finance	Scandinavian Bank <i>Limited</i>
<i>South Africa</i>		Cairo Barclays International Bank SAE

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فصل اول

Crisp		— 1976 —		Stocks and		Crisp		— 1976 —		Stocks and		Crisp	
Sis.	3 a.m. prev.	High	Low	Div. in 5	Sis.	3 a.m. prev.	High	Low	Div. in 5	Sis.	3 a.m. prev.	High	Low
P/E 100s	High Low	Quot.	Close		P/E 100s	High Low	Quot.	Close		P/E 100s	High Low	Quot.	Close

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Cash		ORANGE JUICE (75,000 lbs)					D
	Jan	44-29	44-80	47-60	47-50	47-57	

[illegible]

What to e leading secret

from ernment m

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SUGAR NO. 11 (50 tons)

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Open..High. Low Close Prev

64.
ld; a--Asked; n--Nominal



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 on full-time research.**

Highs and Lows

Jul	sc	446.50	452.50	446.50	452.00	441.00	Silver
Aug		452.00	456.50	451.50	456.00	446.00	3 r
Oct		456.50	460.00	456.00	460.00	450.50	
Dec		460.50	466.00	460.50	465.00	455.20	
Feb		465.50	469.50	466.00	469.50	460.20	
Apr		471.00	475.00	471.00	474.50	466.00	

[illegible]

Commodities

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study the government securities market and the many factors that staff prepares two authorities: a *Daily Money Market*, unique in the industry, and *Government Securities Bulletin*, which includes 20 tables showing separate economic and financial

Midday Indicated Prices

UNITED STATES

USSELS, Dec. 8 (AP).

CN Refine 10-00/0	10412	10512	Reac Surfer 916-01	10212
Cons Food 712-01	9312	9612	Sandvik 916-06	9312
Conoco 2-86	1019A	1029A	S.A.S. 2-83	9312
Cont Tel 814-86	102	103	Seagram 9-83	10312
Cut Ham 3-87	9812	9912	SFE 9-83	10112
Denmark 712-00	873A	883A	Shell 2-86	10112

[illegible]

111	44-87	78 1/2	78 1/2
102	Komatsu 714-90	103	104 1/2
102	Matsushita 694-90	115	117

<p> 1. <i>What is the purpose of the study?</i> 2. <i>What are the research objectives?</i> 3. <i>What is the research design?</i> 4. <i>What are the variables?</i> 5. <i>What is the sample size?</i> 6. <i>What is the data collection method?</i> 7. <i>What is the data analysis method?</i> 8. <i>What are the results?</i> 9. <i>What are the conclusions?</i> 10. <i>What are the limitations?</i> 11. <i>What are the implications?</i> 12. <i>What are the future research directions?</i> </p>	<p> 1. <i>What is the purpose of the study?</i> 2. <i>What are the research objectives?</i> 3. <i>What is the research design?</i> 4. <i>What are the variables?</i> 5. <i>What is the sample size?</i> 6. <i>What is the data collection method?</i> 7. <i>What is the data analysis method?</i> 8. <i>What are the results?</i> 9. <i>What are the conclusions?</i> 10. <i>What are the limitations?</i> 11. <i>What are the implications?</i> 12. <i>What are the future research directions?</i> </p>
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Joint venture with

UTHRFIELD, Mich., E
ers). — Bendix Corn

Gould 910-83	102%	104%	Union Oil 914-87	100%
Gulf Westn 914-82	102%	103%	Uthah 8-87	99%
Home Oil 914-86	103%	104%	Valve 914-85	102%
I.D.B.-J. 915-82	103	104		
Intl UNR 814-82	98%	99%		
ISE Canada 9-82	103%	104%		

they	Manito 914-83	10314	10414	Amazo 414-87	83
posed	Michelin 914-85	10714	10214	Ashland 5-88	87
ell-O	Model 914-83	10014	10714	Beatrice 614-91	121
could.	Montreal 914-81	10314	10414	Beatrice 414-92	107
table	Montreal 914-82	10214	10314	Borden 614-97	114
	Motorola 8-87	10714	10214	Borden 5-92	104
	Nac Fins 10-61	10014	10114	Broadbent 414-87	78
	NailWest 9-86	10014	10014	Carnation 4-86	85
	NailWest 9-86	10014	10014	Chesno 5-88	100

WarnLam 4 1/2-87	80 1/2	82 1/2
WarnLam 4 1/2-88	77	79

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 206. ملحق
 207. مختصر
 208. ملخص
 209. مقدمة
 210. أهداف البحث
 211. أهمية البحث
 212. نطاق البحث
 213. الأسئلة البحثية
 214. الفصل الأول: الإطار النظري
 215. الفصل الثاني: المنهجية
 216. الفصل الثالث: النتائج
 217. الفصل الرابع: الخلاصة والتوصيات
 218. المراجع
 219. ملحق
 220. مختصر

[Handwritten signature]

NYSE Nationwide Trading (3 O'clock) Dec. 8

NYSE	Stocks and Divs	High	Low	Open	Close	Change
100	100	100	100	100	100	100
101	101	101	101	101	101	101
102	102	102	102	102	102	102
103	103	103	103	103	103	103
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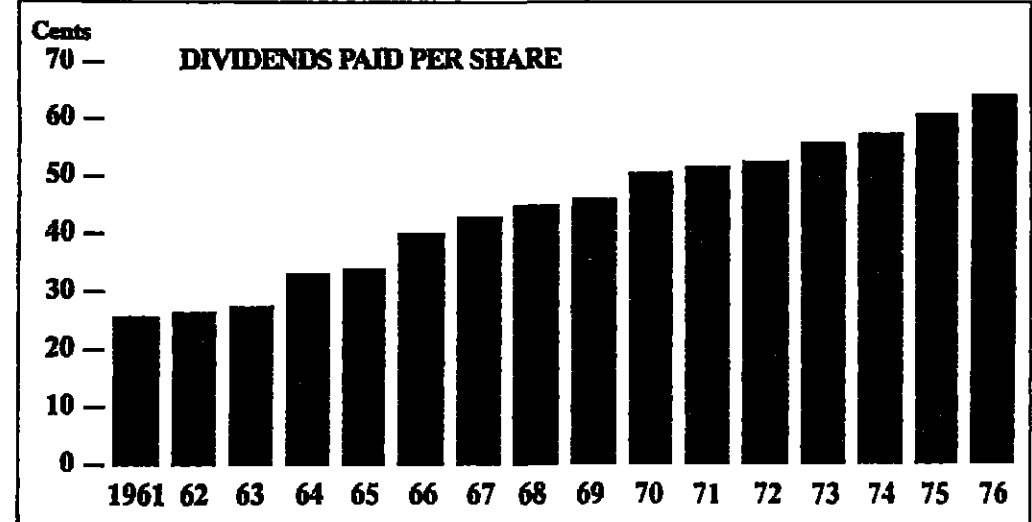
Transamerica Dividend Increase Continues 15-Year Record.

On September 16th Transamerica's Directors increased the annual dividend rate on Transamerica common stock to 66¢ per share.

This action marks the 15th consecutive year of dividend increases to Transamerica common shareholders who have maintained their investment.

Since 1961 the cash payout to such shareholders has increased more than 140%. The Corporation is committed to a long-term policy of attempting to provide regular dividend increases.

Transamerica has paid a cash dividend on its common stock continuously since 1934.



Transamerica

600 Montgomery Street, San Francisco, CA 94111

NEW ISSUES

All of these securities having been sold, this announcement appears as a matter of record only.

\$35,000,000

The Regional Municipality of Peel

(Ontario, Canada)

Serial and Sinking Fund Debentures

The Debentures will be payable as to principal, premium, if any, and interest in The City of New York in lawful money of the United States of America.

\$8,000,000

8% Serial Debentures due December 1, 1977-1986

\$27,000,000

8 7/8% Sinking Fund Debentures due December 1, 1996

Merrill Lynch, Pierce, Fenner & Smith

Incorporated

A. E. Ames & Co.

Incorporated

Bache Halsey Stuart Inc.

The First Boston Corporation

Blyth Eastman Dillon & Co.

Incorporated

Burns Fry and Timmins Inc.

Dominion Securities Harris & Partners Inc.

Drexel Burnham & Co.

Goldman, Sachs & Co.

Greenshields & Co Inc

Hornblower & Weeks-Hemphill, Noyes

E. F. Hutton & Company Inc.

Kidder, Peabody & Co.

Kuhn, Loeb & Co.

Lehman Brothers

Loeb, Rhoades & Co.

Paine, Webber, Jackson & Curtis

Reynolds Securities Inc.

Salomon Brothers

Smith Barney, Harris Upham & Co.

White, Weld & Co.

Dean Witter & Co.

Wood Gundy

Bear, Stearns & Co.

Bell, Gouinlock & Company

Midland Doherty Inc.

Nesbitt Thomson Securities, Inc.

Pitfield, Mackay & Co., Inc.

Richardson Securities, Inc.

L. F. Rothschild & Co.

Shearson Hayden Stone Inc.

Shields Model Roland Securities

ABD Securities Corporation

Crédit Commercial de France

Deutsche Girozentrale—Deutsche Kommunalbank—

UBS-DB Corporation

Stuart Brothers

Burton J. Vincent, Chesley & Co.

Toronto Stocks

Canadian Prices		Low		Last		Change	
Abitibi	94 1/2	94	94	94	94	94	94
Alcan	114 1/2	114	114 1/2	114	114 1/2	114	114 1/2
Aldrich	42	42	42	42	42	42	42
Algonquin	84 1/2	84 1/2	84 1/2	84 1/2	84 1/2	84 1/2	84 1/2
Alma	127 1/2	127 1/2	127 1/2	127 1/2	127 1/2	127 1/2	127 1/2
Alton	127 1/2	127 1/2	127 1/2	127 1/2	127 1/2	127 1/2	127 1/2
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HOTELS **LOW COST FLIGHTS** **QUICK ACQUISITION** **WORLDWIDE PERSONNEL** **PERSONNEL WANTED** **SITUATIONS WANTED**

(Continued from Back Page)

فصل في التَّحْقِيقِ

Baseball Czar to Propose A's Shift to National League, Move to Washington

By Nancy Scannel

LOS ANGELES, Dec. 8 (UPI).—Baseball commissioner Bowie Kuhn said yesterday that he will introduce a plan to have the Oakland A's shift from the American to the National League and move to Washington.

Working behind the scenes with some allied club owners, Kuhn said he would make his unprecedented proposal to a joint meeting of the leagues. A vote may be held tomorrow.

Meanwhile, The Washington Post learned that the staff of the House Select Committee on Professional Sports will recommend Friday that the committee vote to recommend Congress remove baseball's anti-trust immunity.

The committee, formed to in-

quire into the relationship between the law and professional sports, has been leaning in that direction. A vote is scheduled Friday morning, but no action is expected until the next congressional session.

A committee source said there is a possibility that the panel might reject the staff's recommendation if it appears that baseball really is ready to give Washington a team "instead of asking for more time to work things out."

But the source said the committee may still vote to recommend lifting baseball's immunity, regardless of Washington's status.

At the same time that the commissioner was lobbying for his proposal, Charles Finley, the A's owner, told the Associated Press he had never heard of the

plan and shrugged it off as a joke.

But, according to some owners, Finley has been involved in the discussions and there have been suggestions that approval of the plan is contingent on his dropping a lawsuit against Kuhn and the major leagues.

The suit, scheduled to go to trial in Chicago Monday, was filed after Kuhn nullified Finley's \$3.5-million sale of three Oakland players to the Boston Red Sox and New York Yankees in June. Kuhn said at the time that the sale was not in the best interest of baseball, claiming it threatened to destroy balance between the affluent and poorer clubs.

Finley's attempted sale of Vida Blum, Joe Rudi and Rolfe Fingers was also viewed as a move

that would further strip the once-dominant three-time World Series champions. It also increased speculation that Finley wanted to get out of baseball.

The A's and their NL neighbor, the San Francisco Giants just across the bay, have been losing money and attendance consistently, in part because of their competition for fans—universally regarded as an unhealthy situation for baseball.

The thinking among some club executives here is that Finley, who has been in poor health recently, would sell the club rather than retain ownership if it were moved to Washington.

Some NL clubs reportedly might not go along with the proposal unless Finley agrees to drop his suit. "I would say there is a likelihood, a probability,

by a possibility that he'd drop it," said Dan O'Brien of the Texas Rangers.

Others, who asked not to be identified, raised questions about whether the two leagues would have to help Finley but the A's contract with Oakland Coliseum, which runs until 1983.

There is an irony in that the plan, if approved, would put longtime adversaries Kuhn and Finley in a position of helping each other out of some vexing problems.

Kuhn would not comment on how his proposal was being greeted but the idea appeared to have a fair amount of support among the owners, particularly in the AL.

Since the plan would create two 13-club leagues, there would

be some need for limited inter-league play—which the AL has sought and the NL has fought.

But because the plan would resolve the San Francisco-Oakland problem and fulfill Kuhn's promise to return baseball to Washington—without having to go to expansion—there is some growing support in the NL.

NL president Charles (Clay) Feeney said he could not predict how the league might vote but suspected it would require unanimous approval of the 12 clubs.

Since there is also a move under way in the NL to change the unanimous-consent rule for making changes in the league constitution, a light over this procedural matter could doom Kuhn's plan.

Taken by Surprise
In the AL, a three-quarters

vote of approval would be required. AL president Lee MacPhail could not be reached for comment.

Probably taken most by surprise by the plan was Jerald Hoffberger, owner of the AL's Baltimore Orioles, who learned of the proposal through the news media. Hoffberger would have vetoed the plan.

"I'll tell you what else they're recommending," Hoffberger said. "They're recommending that I become captain of the Great Zepherus, that aircraft that couldn't fly and crashed some decades ago. It would make as much sense."

"This thing is utterly ridiculous," he said.

HL Capitals Learning How to Use Advantage

OVER Md., Dec. 8 (UPI).—penalties to Washington opponents have been with means from the sky fans.

Reason is that the caps get into more trouble as cause when they own a advantage. They have a nina goals and scored on the power play, those means turned to last night as the Capitals won on three power-play goals in beating the Vancouver Canucks, 4-3.

It's not what the difference power play is," said Aaron, who scored the second goal on the final score, Ace's game winner. "We work-puck around well, and I that was the key. Anyone get good movement, going to succeed."

In Tom Mevius also had no for the Capitals' sudden

wealth of man-advantage goals. "I didn't see anything that different out there," Mevius said. "We've moved the puck well at times before, but the penalty killers had been doing a good job. Tonight the shots just went in."

Capitals' rookie Rick Green opened the power-play parade with a 45-foot slapshot that gave Washington a 1-0 lead. Vancouver's Bobby Laine tied the game later in the first period and Washington's Rick Bagnall and the Canucks' Gary Monahan traded second-period goals before Charon banged in another power-play marker with 48 seconds left in the period.

The goal was Charon's 18th of the year and his 4th in as many games.

The game appeared destined for a tie as Monahan scored again early in the third period but Bailey neatly converted Charon's pass from behind the net for the evening's third power-play goal and the Caps' eighth triumph of the season against 15 losses and 4 ties.

Pete Scamurra (left) of the Capitals and Bob Bailey of the Canucks battle for puck.



Vanish Teams Quarterfinals UEFA Soccer

Dec. 8 (Reuters).—Eight of the UEFA Cup quarterfinals and Athletic Bilbao's goal in the first half of the match. The match was a 1-1 draw, with the goal scored by the Athletic's goal in the first half of the match.

Germany, Greece and also kept entries in the finals, as Magdeburg, AKE and Juventus survived the matches of varied

Penguins 6, North Stars 2

At Pittsburgh, center Ron Schock scored two goals to lead the Penguins to a 6-2 victory over Minnesota.

Schock, who failed to score since the opening game of the season, broke a 25-game goalless draw with two goals, 37 seconds apart, midway through the third period. Both goals were set up by passes from linemen Mike Corrigan and Rick Kehring.

Corrigan had given Pittsburgh a 4-1 lead with his sixth goal of the season at 4:49 of the third period. Kehring also assisted on Corrigan's goal.

Rookie Elmer Chapman and Wayne Blanchin opened the scoring in the first period, as the Penguins jumped to a 2-0 lead. Dean Talafoos and Bill Hogaboam scored for the North Stars, while Jean Pronovost rounded out Pittsburgh's scoring.

Islanders 3, Blues 2

At Uniondale, N.Y., Clark Gillies and J.P. Parisse scored goals less than three apart early in the third period to give the New York Islanders a 3-2 victory over St. Louis.

Gillies tied the game, 2-2, when he battled in a Bob Bourne rebound at 1:30 of the period and Parisse scored the game-winner on the rebound of a Jean Pilon shot with five seconds left on a hooking penalty against the Blues' Gary Unger.

Bob Nystrom closed the scoring with 3:07 left in the game with his team-high 13th goal of the season as the Islanders increased their first-place lead in the Patrick Division to five points over the Philadelphia Flyers.

NHL Standings

CAMPBELL CONFERENCE
Patrick Division

W	L	T	Pts	GF	GA
N.Y. Islanders	17	7	3	37	24
Philadelphia	13	7	3	22	24
Pittsburgh	11	11	2	22	21
N.Y. Rangers	11	11	2	20	20

Smiley Division

W	L	T	Pts	GF	GA
St. Louis	12	11	3	28	29
Chicago	10	14	3	23	33
Colorado	8	18	3	19	28
Minnesota	7	17	4	20	31
Vancouver	7	20	2	16	28

WALSH CONFERENCE

Norix Division

W	L	T	Pts	GF	GA
Montreal	21	4	4	46	14
Los Angeles	19	11	3	37	22
Pittsburgh	10	12	5	25	31
Detroit	9	14	4	20	30
Washington	8	14	5	20	28

Smiley Division

W	L	T	Pts	GF	GA
Boston	19	6	3	40	17
Buffalo	14	7	3	31	21
Toronto	12	8	5	29	18
Cleveland	6	14	7	19	28

Tuesday's Games

Washington 4, Vancouver 3 (Green, Bagnall, Charon, Bailey; Monahan 2; Leach 1).
N.Y. Islanders 4, St. Louis 2 (Westfall, Gillies, Nystrom, Parisse; Berron 2; Talafoos, Hogaboam).
Pittsburgh 6, Minnesota 2 (Schock 2; Charon, Blanchin, Pronovost, Corrigan; Talafoos, Hogaboam).

WHA Standings

EAST

W	L	T	Pts	GF	GA
Quebec	16	11	1	33	127
Indianapolis	15	10	3	25	93
Cincinnati	14	12	2	28	117
Minnesota	11	13	4	26	87
New England	9	14	4	23	102
Birmingham	4	14	1	17	98

WEST

W	L	T	Pts	GF	GA
Winnipeg	17	11	1	33	126
San Diego	14	10	2	30	87
Houston	12	9	4	28	81
Phoenix	12	12	2	28	117
Edmonton	12	18	1	26	105
Calgary	10	14	2	22	89

Tuesday's Games

Winnipeg 4, Phoenix 2 (Miller 2; Hechler, McNeill, Rago, Moorman).
Indianapolis 4, Birmingham 2 (Marz, Marz, McDonald, Martin, Jacques).
Minnesota 4, New England 2 (Green 2; Charon, Gillies, McDonald, Antonovich; Webster, Backstrom).
Edmonton 4, Quebec 2 (Boody, Norris, Ullman, Russell; Tardif 2).

NBA Cavs Even Road Record With Sharpshooting Victory

OAKLAND, Calif., Dec. 8 (UPI).—The Golden State Warriors handily needed the home edge last night in dispatching the Cleveland Cavaliers. The revived Warriors sank 55 per cent of their field-goal shots in coasting to a 120-104 NBA victory, their fifth straight.

For Golden State, it was a matter of sharpshooting by forward Rick Barry (37 points), guard Charles Johnson (23), slick ball handling, running and hard work.

"There's really no secret to it," said Johnson, who came off the bench to eclipse his previous season high of 21 points. "Shooting well is just a lot of hard work. Cleveland has been holding a lot of people under 100 points by controlling the tempo, but we didn't let them do it tonight."

The loss evened the Cavaliers' road record at 7-7—they are 16-7 overall.

Warrior coach Al Attles explained before the contest why he thought road records around the league might improve:

"I'm amazed if everyone else about the exceptionally high percentages of home teams this year. Support from fans gets home teams going. But in modern arenas teams don't practice at home often enough to have the kind of advantage a college team may have at home."

"It's early yet. Things may even out. Last year we were good on the road. This year for a while I thought we'd never win away from home."

The Warriors, 2-6 on the road, improved their overall mark to 12-10 with a performance reminiscent of their run for the NBA title two seasons ago and the best regular season record of the 1975-76 campaign.

"The big thing is that we're running as well as we ever have," said Barry. "If we could only sustain ourselves and do it more often it would be remarkable."

Barry scored 14 points in the

first quarter, 10 in the second, made all 13 foul shots and had 8 assists.

The Cavaliers, who seemed unable to keep up with the Golden State running game, were paced by Campy Russell with 24 points and Bobby Smith and Austin Carr, with 16 apiece.

Jazz 119, Sonics 88

At New Orleans, Aaron James hit 16 straight points at the end of the third quarter to lead the Jazz to a 119-88 victory over Seattle.

James, who led all scorers with a career-high 36 points, had a team-record 13 consecutive field goals in the third and fourth quarters as the Jazz pulled away.

At Chicago, Mickey Johnson and Artis Gilmore each scored 22 points to lead the Bulls to a come-from-behind 89-81 victory over Los Angeles.

The Lakers scored the last eight points in the third quarter to build a 70-63 lead. But Chicago came back to outscore the Lakers, 11-1, in the first four minutes of the final quarter to take a 74-71 lead. Norm Van Lier sparked the Bulls in the third quarter when he got 10 of his 13 points.

Blazers 107, Braves 103

At Buffalo, Dave Robisch hit four free throws in the last 13 seconds to ruin a 43-point, 29-rebound performance by Buffalo's troubled superstar, Bob McAdoo, and carry Indiana to a 107-103 victory over the Braves.

Robisch's left-handed tosses from the 15-foot line came after McAdoo four times pushed Buffalo ahead in the closing minutes of the game.

But McAdoo, gunning in a personal season high point total as well as a team record in rebounding, missed two free throws with 24 seconds remaining that would have put Buffalo on top.

For the 6-10 center-forward, who is having a contract dispute with Braves co-owner Paul Snyder, it may have been his last game in a Buffalo uniform.

Snyder said he expects to resolve soon the question of whether McAdoo stays or is traded to the New York Knicks.

Blazers 111, Knicks 94

At New York, Maurice Lucas scored 22 points, Lionel Hollins

muscular, finished 5 seconds behind her countrywoman in her return to the World Cup circuit which she once dominated. She sat out last year.

Nelson, the American Olympic bronze medalist in this event, finished 9 seconds off the leader. She was the ninth skier to start, and the American on the race track, women's coach John Bowerman, said the decision for cancellation was made after 30 skiers had raced. But communications in the Alps were slow moving and 20 more skiers took their turns before the decision was passed along.

Before Nelson heard of it, she had called today's race "ridiculous." She said that wind and snow had almost erased the course and officials had to set down pine boughs as markers.

35 Seconds Behind

"There's one race like this every year," said Nelson, who referred to a catastrophe last year in Austria when she finished 35 seconds behind the winner and the result held.

"I just hope there are no more like this one."

There will be another chance for the bizarre to occur when the women try the giant slalom. At first, both the downhill and giant slalom were set for tomorrow, but one of the week's many protests again changed the schedule—an Italian coach saying that two races in one day would be too much for the women, who, after today's race was canceled, went off to do their jogging, play soccer, train, train.

The wind and falling snow was no bother. Said an American skier: "Maybe the trouble with skiing is that it's held outdoors."

Another Chance

Given a reprieve were Annemarie Frevl-Moser of Austria and American Cindy Nelson. Frevl, now awake rather than thickly

It was the first time that a World Cup race had been called off after it had started. Events are canceled because of dangerous racing conditions; that was not the case today. The winds and the new snow made the course slower. Austrian Rini Deufel and Brigitte Habersatter managed to handle it, finishing first and second, and after their initial disappointment also managed to hang on to their honor. Deufel, 19 and a corner on the team, said, "There were cross winds and side winds. But I like sailing. I have a catamaran."

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